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Final
Community Relations Plan
Naval Station Norfolk
Norfolk, Virginia

Prepared for
Department of the Navy
Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia

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Acronyms and Abbreviations

AOC	Area of Concern
AST	Aboveground Storage Tank
BMPs	Best Management Practices
BRAC	Base Realignment and Closure
CDP	Census-Defined Place
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CRP	Community Relations Plan
CS	Confirmation Study
DoD	Department of Defense
EE/CA	Engineering Evaluation/Cost Analysis
ERN	Environmental Restoration Navy
EPA	U.S. Environmental Protection Agency
EPIC	Environmental Photographic Interpretation Center
FFA	Federal Facility Agreement
FS	Feasibility Study
FY	Fiscal Year
HRSD	Hampton Roads Sanitation District
IAS	Initial Assessment Study
IRP	Installation Restoration Program
IRPRI	IRP Remedial Investigation
IWMP	Industrial Wastewater Management Plan
LANTDIV	Atlantic Division
NACIP	Navy Assessment and Control of Installation Pollutants Program
NAVFACENGCOM	Naval Facilities Engineering Command
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No Further Action
NFRAP	No Further Response Action Planned
NM	Naval Magazine
NSN	Naval Station Norfolk
NPL	National Priorities List
O/WS	Oil/Water Separator
PA	Preliminary Assessment

PA/SI	Preliminary Assessment/Site Inspection
PCBs	Polychlorinated Biphenyls
PRAP	Proposed Remedial Action Plan
RA	Remedial Action
RAB	Restoration Advisory Board
RBC	Risk-Based Criteria
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RD/RA	Remedial Design/Remedial Action
RFA	RCRA Facility Assessment
RI	Remedial Investigation
RI/FS	Remedial Investigation and Feasibility Study
ROD	Record of Decision
RRR	Relative Risk Ranking
SAA	Satellite Accumulation Area
SACLANT	Supreme Allied Command Atlantic
SARA	Superfund Amendment and Reauthorization Act
SI	Site Investigation
SMP	Site Management Plan
SSA	Site Screening Areas
SWMUs	Solid Waste Management Units
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
U.S.	United States
UST	Underground Storage Tank
VDEQ	Virginia Department of Environmental Quality
VDH	Virginia Department of Health
VHWMR	Virginia Hazardous Waste Management Regulations
VPDES	Virginia Pollutant Discharge Elimination System
WDA	Waste Disposal Area

Overview of the Community Relations Plan

The Commander, Atlantic Division, Naval Facilities Engineering Command (LANTDIV) is responsible for the Installation Restoration Program (IRP) at Naval Station Norfolk (NSN), Norfolk, Virginia. The IRP identifies, evaluates, and cleans up or controls contamination from past, formerly accepted hazardous waste disposal practices and hazardous material spills. The current Navy IR Program is consistent with the process outlined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which is administered by the U. S. Environmental Protection Agency (EPA). CERCLA is more commonly known as the Superfund program. In addition to CERCLA requirements, the IRP is carried out in compliance with all federal, state, and local laws and regulations. The EPA and Virginia Department of Environmental Quality (VDEQ) are the regulatory agencies that work with LANTDIV to conduct the environmental programs at Naval Station Norfolk.

The Department of the Navy has executed a proactive community relations program to manage issues during the Installation Restoration process. The Community Relations Plan (CRP) is a part of the public's "right to know" process. This CRP identifies community concerns and outlines community relations activities to be carried out by the Navy during the Installation Restoration process. The Navy's objectives during the Installation Restoration process is to provide information that is factual and timely, encourage community involvement, obtain feedback from the concerned communities, answer questions, and to further understanding about the IRP. The Navy's IRP Manager at NSN has responsibility for administering this plan.

This CRP has been prepared to assist the Navy in meeting the needs of the community and is divided into the following sections:

1. Overview of the Community Relations Plan
2. Installation Restoration Program
3. Community Background
4. Highlights of the Community Relations Program

and appendices:

- A. Sample Questionnaire
- B. Restoration Advisory Board Members
- C. Public Meetings Held (2001-2003)
- D. Locations for Information Repository and Administrative Record File
- E. Program Points of Contact
- F. Local Media
- G. Sample Fact Sheets
- H. Elected/Appointed Officials
- I. Boards and Commissions/Civic Clubs—City of Norfolk
- J. Glossary

1.1 Objectives of the Community Relations Program

At NSN, the Navy's IRP responsibilities under CERCLA include performing all required community relations activities throughout the clean up process. The primary objectives of community relations are to:

- Encourage and promote communication between the Navy and concerned individuals, including local residents and state and local officials
- Inform the general public of planned and ongoing clean up actions, major findings and decisions
- Furnish accurate, timely, and understandable information to affected and interested parties
- Provide and maintain a process of monitoring public concerns and information needs throughout the installation restoration process
- Ensure a system is in place for incorporating public comments into the installation restoration process in a timely and meaningful way
- Gather and update information about local communities neighboring NSN
- Revise the community relations program as necessary to meet the changing needs of the local community

1.2 CERCLA Community Relations Requirements

The following paragraphs explain the required community relation activities under the governing regulations. These requirements are detailed in the 1990 National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and in EPA policy documents. Presidential Executive Order 12580 designates the Navy as the lead agency for all CERCLA actions at NSN. The Navy has integrated these requirements into the community relations program at NSN based on the Superfund Amendment and Reauthorization Act (SARA) and the NCP, and as outlined in EPA guidance for National Priorities List (NPL) sites. NSN was formally added to the NPL in April of 1997. The EPA guidance is summarized below:

Community Interviews - As a requirement of CERCLA, interviews must be conducted by the designated agency (in this case the Navy) at the beginning of the remedial investigation (RI) and feasibility study (FS) stage to ascertain the level of interest in the site, major concerns and issues, as well as the informational needs of affected residents and community leaders.

Community Relations Plan - Based on the community interviews conducted by the Navy, a Community Relations Plan must be prepared that includes current IR site descriptions, a history of community relations activities, and a list of contacts for local officials and other interested parties.

Information Repository and Administrative Record - Before a remedial investigation can begin, the Navy must establish an information repository at or near the site. According to Section 117(d) of SARA, each item developed, received, published, or made available to the

public must be accessible in the information repository. In addition, the repository must include information describing the technical assistance grants application process. The Navy must inform all interested parties of the establishment and location of the information repository.

SARA also requires the Navy to establish an administrative record for the selection of a response action at or near the site. At a minimum, the administrative record must include documents the Navy utilized when selecting a response action. The Navy must also publish a notice of availability of the administrative record in a local newspaper of general circulation.

Technical Assistance Grant Program - The Navy has a duty to inform the community of the availability of technical assistance grants prior to the remedial investigation. The technical assistance grant program provides funds for qualified citizens' groups to retain independent technical advisors to assist them in understanding and commenting on technical decisions related to Superfund clean up actions.

Remedial Investigation/Feasibility Study and Program Plan Notification - SARA Section 117 (a) and (d) requires EPA to notify the public of the Remedial Investigation/Feasibility Study (RI/FS) Report and the Proposed Plan. The definitions for remedial investigation, feasibility study and Proposed Plan are located in the Glossary of this Community Relations Plan. The public notice must identify the Navy remedy favored, the other alternatives examined, and the locations of the administrative record and information repository.

Public Comment Period and Public Meeting - "A reasonable opportunity for submission of written and oral comments and an opportunity for a public meeting at or near the facility" is required to be held by the Navy according to SARA Section 117 (a)(2). The NCP requires that the Navy provide at least 30 calendar days for the submission of written and oral comments on the Proposed Plan and the supporting analysis and information located in the information repository. Additionally, the NCP states that the Navy must hold the public meeting during the comment period and discuss the Proposed Plan, supporting analysis, and information at the meeting. A transcript of the public meeting minutes must be made available to the public and included in the administrative record. The Navy should also place the transcript in the information repository.

Responsiveness Summary - At the end of the comment period, SARA Sections 113 and 117(b) and NCP Section 300.430(f)(3)(i)(F) require that the Navy prepare a response to significant comments, criticisms, and new data submitted either in written or oral form during the public comment period. This response document must accompany the final remediation action plan or other decision document.

Public Notice - When the final remedial action plan is chosen, SARA Section 117(b) and (d) require the Navy to inform the community through a public notice in a major local newspaper of general circulation. The Navy must insure the final plan is available for public inspection and copying at or near the site before the remedial action begins.

Review and Revision of the CRP - The Navy must review the CRP before remedial design begins and, if necessary, revise the CRP to account for the needs and concerns of the community during the remedial design and remedial action that are not currently reflected in the CRP. The Navy may conduct community interviews or other activities to understand these concerns.

Fact Sheet and Opportunity for a Public Briefing on the Final Engineering Design - As required by NCP Section 300.435(c)(3), the Navy should issue a fact sheet and, as appropriate, provide a public briefing prior to the start of the remedial design. The meeting should supply the community with the information about construction schedules, traffic pattern changes, locations of monitors, and the manner in which information will be provided throughout the remedial action.

Source: *EPA Community Relations in Superfund: A Handbook*. Prepared by the U.S. EPA, Office of Emergency and Remedial Response, Washington, DC. EPA/540/R-92/009. January 1992.

1.3 Authority and Implementation Responsibility

The Department of the Navy is the federal agency charged with ensuring compliance with all applicable Federal, State, Tribal and local environmental requirements. The Installation Restoration Program at Naval Station Norfolk is under the authority of the Commanding Officer of Naval Station Norfolk, Norfolk, Virginia and with the support of Naval Facilities Engineering Command, has the overall responsibility for administering this Community Relations Plan.

Appendix E "Program Points of Contact" lists the names, physical addresses, and telephone numbers of individuals who can respond to public inquiries or provide relevant information to the public.

Installation Restoration Program

2.1 Facility Description

NSN is the largest naval base in the world encompassing 4,631 acres of land in the northwest portion of the City of Norfolk, Virginia as shown in Figure 2-1. NSN includes approximately 4,000 buildings, 20 piers, and an airfield. The western portion of NSN is a developed waterfront area containing the piers and facilities for loading, unloading, and servicing naval vessels. Land use in the surrounding area is commercial, industrial, and residential. The waterfront area south of the NSN provides shipping facilities and a network of rail lines for several large industries.

NSN began operations in 1917, when the U.S. Navy acquired 474 acres of land to develop a naval base to support World War I activities. Bulkheads were built along the coast to extend available land and after extensive dredge and fill operations, the total land under Navy control was 792 acres.

An additional 143 acres of land were acquired in 1918 and officially commissioned for the Naval Air Station (NAS). During the period from 1936 through 1940, improvements to the piers and expansion of supply/material handling facilities were also completed.

During World War II major construction projects were completed, including a power plant, numerous runways and hangars, a tank farm, and several barracks/housing complexes. During this time, the area of NSN expanded to over 2,100 acres. After World War II, NSN continued to acquire land through various types of land transfers and dredge and fill operations conducted in areas of Mason Creek, the Bousch Creek Basins, and Willoughby Bay.

During its history, NSN has expanded to become the world's largest naval installation, with 76 ships home-ported in Norfolk. The Base currently has 19 piers handling approximately 3,100 ship movements annually. NSN operates in various capacities to provide support to vessels, aircraft, and other activities. NSN houses many tenants, each performing different operations involving the servicing and maintenance of vessels and aircraft.

The service and maintenance of ships includes utilities hook-up, on-board maintenance, and coordination of ship movements in the harbor. Additional functions include loading, unloading, and handling of fuels and oils used aboard the vessels. Ship and aircraft repair operations consist of paint stripping, patching, parts cleaning, repainting, engine overhauls, and sandblasting.

The mission of NSN is to provide fleet support and readiness for the U.S. Atlantic Fleet.

2.2 Physical Characteristics

The major physiographic features of NSN and surrounding area are described in the following subsections.

2.2.1 Climate

The Hampton Roads Area has a maritime climate characterized by long temperate summers and mild winters. The average annual temperature is 60.7 °F. July is the warmest month, with temperatures averaging 78.7 °F, while January is the coolest, with temperatures averaging 43.1 °F. Precipitation averages 43 inches annually and is evenly distributed throughout the year. A slight increase in precipitation occurs from June to August due to the prevalence of convective thunderstorms. The average annual snowfall is 8.8 inches. Winds are generally in an easterly direction and of moderate speed, ranging from 6 to 8 knots.

2.2.2 Topography

The topography of NSN is nearly level. Surface elevations at the base range from sea level to about 15 feet above mean sea level (msl) in the central portion of the base.

2.2.3 Soils

Soils at NSN generally consist of fine sands and silts with a thickness of 20 to 40 feet having low to moderate permeability. Relatively impermeable sediments composed of silt, clay, and sandy clay typically underlie this upper layer of soils. Together, these strata have a combined thickness of approximately 60 feet. The average permeability of soils in Norfolk County is less than 2.5 inches per hour.

The soils at NSN are a complicated distribution of naturally occurring material and dredge-fill material. The native soils are composed of unconsolidated fine sands and silts of low to moderate permeability and are generally underlain by relatively impermeable sediments consisting of silt, clay, and sandy clay. The fill material is primarily composed of heterogeneous sediments removed during dredging operations. The composition of the dredge-fill sediments varies from site to site, but it is generally composed of sand, silt, and gravel. Some concrete, stone, and miscellaneous debris was also used as fill material.

2.2.4 Surface Water Resources

Four major surface water features surround the greater Norfolk area including the James and Elizabeth Rivers, Willoughby Bay, and Chesapeake Bay, all of which are tidal. The majority of surface water on the base flows either to Mason Creek or to the remnants of Bousch Creek. The northernmost channel of Mason Creek traverses the base and empties into Willoughby Bay via a subgrade aqueduct. The main channel of Bousch Creek was filled in and replaced by a network of drainage ditches during the development of the base. These narrow drainage channels are interspersed throughout the central part of the base. Both Mason Creek and these drainage ditches are tidal throughout the base. Both creeks discharge to Willoughby Bay and ultimately, to the Chesapeake Bay. Some surface water from the base discharges directly into the Elizabeth River.

2.2.5 Geology and Hydrogeology

NSN is located in the outer Atlantic Coastal Plain Physiographic Province, which is characterized by low elevations and gently sloping relief. The base is underlain by more than 2,000 feet of gently dipping sandy sediments. The uppermost geologic unit is the Columbia Group, which is approximately 60 feet thick. The upper 20 to 40 feet consist of

unconsolidated fine sands and silts. These sediments possess low to moderate permeabilities and comprise the unconfined Columbia aquifer. The lower 20 to 40 feet consist of relatively impermeable silt, clay, and sandy clay.

The Chesapeake Group underlies the Columbia Group. The uppermost unit in the Chesapeake Group is the Yorktown Formation. It is capped by the Yorktown confining unit that separates the Columbia aquifer from underlying Yorktown aquifer. The Yorktown formation is approximately 90 to 100 feet thick in the vicinity of NSN and composed of marine silt and clay and moderately consolidated coarse sand and gravel with abundant shell fragments. The Chesapeake Group is composed of several additional deeper aquifers and confining units.

Two significant shallow aquifer systems in the area are the Columbia aquifer located in the upper 20 to 40 feet of the Columbia Group, and the underlying Yorktown Aquifer. The Columbia aquifer includes the water-table aquifer, is reportedly thin, and consists of discontinuous heterogeneous sand and shell lenses. The water table depth is usually less than 8 feet. The Yorktown Aquifer is semi-confined beneath a clay layer in the upper Yorktown Formation. Water-bearing zones in the Yorktown Aquifer consist of fine to coarse sand, gravel, and shells.

2.3 Previous Investigations and Remedial Actions

2.3.1 National Priorities List (NPL)

NSN was proposed for inclusion on the National Priorities List (NPL) in the *Federal Register*, Volume 16, Number 117, on June 17, 1996 and was added to the NPL on April 1, 1997. The NPL, which was established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), is the EPA's list of waste sites throughout the nation with the highest priorities for clean up. The decision to place a particular site on the list is determined on the basis of potential for risk to human health and the environment. As of December 1, 2000, there were 1,231 nation-wide sites listed on the NPL, of which 160 were federal facilities such as NSN.

CERCLA is often referred to as "Superfund" because it established a fund for cleaning up abandoned or uncontrolled hazardous waste sites. However, cleanup activities on Department of Defense facilities are funded through the Defense Environmental Restoration Account, which is appropriated annually by the U.S. Congress. For cleanup activities on the NSN property, the Navy is designated lead authority pursuant to the requirements imposed and defined in the CERCLA, 42 U.S.C. §§9600, 9604, 10 U.S.C. §2701 et seq., and Executive Order 12580 (23 Jan 1987). Each year, available funding is directed to the multiple Navy facilities, or activities, based on a previously conducted Relative Risk Ranking (RRR) system. The RRR system provides the Navy a basis for determining which sites warrant priority action and is used to establish cleanup goals for the Department of the Navy.

To be concise, the activities considered to be the most contaminated and/or presenting the highest potential for risks to human health or the environment are given greater funding. Typically an activity on the NPL will receive priority funding. Although the responsibility for the funding and carrying out the environmental restoration at NSN lies with the Navy, the NPL gives the EPA a specific role in the oversight of these actions.

Team partnering was introduced to NSN in October 1996, to streamline the cleanup of former disposal sites by using consensus-based site management strategies during the CERCLA process. The partnering team (the Team) consists of representatives from Atlantic Division, Naval Facilities Engineering Command, Commander Navy-Region Mid- Atlantic (CNRMA), EPA Region III, Virginia Department of Environmental Quality (VDEQ) and Navy contractors. The Team has streamlined the site investigation and remediation process to reduce costs and expedite cleanup and closure at IRP sites.

2.3.2 CERCLA Process

The Navy Assessment and Control of Installation Pollutants (NACIP) Program was changed in 1986 to reflect the requirements of the CERCLA process as amended by SARA. This revised program for the Navy is referred to as the Installation Restoration Program (IRP).

The CERCLA process includes a series of activities, several of which are designed to involve the public in the decision-making process. The typical sequence of activities is detailed below.

1. **Preliminary Assessment/ Site Investigation (PA/SI)** - The IRP begins site studies with a PA/SI to distinguish between sites that pose little or no threat to human health or the environment and sites that may pose a threat and require further investigation. This stage involves a review of historical documents and a visual site inspection. If the PA results in a recommendation for further investigation, an SI is performed. During the SI, media samples (such as water and soil) are collected to confirm or deny the presence of potentially hazardous substances.
2. **Remedial Investigation/ Feasibility Study (RI/FS)** - Based on the results of the PA/SI, an RI may be needed at a site. An RI is designed to learn more about the site contamination and determine if any known contamination is migrating from the site. During this phase, samples are usually collected from the soil, groundwater, surface water (such as creeks or lakes), and sediments. The resulting data provides information about the extent of possible contamination and rate of migration, if applicable.
3. **An FS may be conducted concurrently with the RI** - The data collected in the RI influence the development of remedial (i.e. cleanup) alternatives able to meet the environmental standards, considering factors such as the degree of contamination and potential human health and environmental risks. A variety of remedial methods are considered in the FS, including the "No Action" alternative. Next, a Proposed Remedial Action Plan (PRAP) is presented, outlining several feasible or likely alternatives and recommending the preferred remedial method.
4. **Proposed Remedial Action Plan (PRAP)** - The public has an opportunity to comment on the PRAP during an announced formal public comment period. Site information is compiled in an Administrative Record and placed in the general IRP Information Repositories established at local libraries for public review. The public comments are reviewed and the responses are recorded in a document called a Responsiveness Summary.
5. **Record of Decision (ROD)** - At the end of the public comment period, an appropriate remedial alternative is chosen to protect human health and the environment. All parties directly involved in the restoration program (Navy, EPA, and VDEQ) must agree on the

selected alternative. The ROD document is issued that explains the selected remedial action and includes the Responsiveness Summary.

6. **Remedial Design/Remedial Action (RD/RA)** - The final stage in the process is the Remedial Design/Remedial Action (RD/RA). The RD phase is where the technical specifications for cleanup remedies and technologies are designed. The RA is the actual construction or implementation phase of the cleanup process.

Additionally, the following activities may occur at any time during the CERCLA process:

- **Interim Actions** are taken to reduce any immediate risks to human health and the environment during the course of field investigations or until a final remedial action is determined. Interim actions can vary from removal actions to institutional controls, such as controlling site access or establishing land use instructions to control activities on or near contaminated sites.
- **Removal Actions** can function as either interim or long-term measures of addressing potential releases of contaminants and reducing human exposure.
- **An Engineering Evaluation/Cost Analysis (EE/CA)** is completed for non-time-critical removal actions and is similar to a fast-track, limited-scope RI/FS. It addresses human health exposure risks, compares removal alternatives, and provides a mechanism for regulatory and public review.
- **A No Further Response Action Planned (NFRAP)** decision document is developed after a field investigation finds that the levels of contaminants at a particular site do not pose a threat to human health and the environment. The NFRAP provides a means for regulatory agencies to review the site investigation and risk assessment and for the public to comment on the no-action decision.
- **A Site Close-Out** can equate to NFA and can occur during any stage of the IR Program except design, depending on the particular site and its characteristics. Site close-outs are initiated when the Navy/Marine Corps determines the NFA is appropriate at a site. (Source: "Navy/Marine Corps Installation Restoration Manual" by NAVFACENGCOM).

2.3.3 Previous Investigations

Previous basewide investigations completed through the IRP include the Initial Assessment Study (IAS) completed by Environmental Science & Engineering, Inc. in February 1983; the IRP Remedial Investigation—Interim Report (IRPRI) completed by Malcom Pirnie in March 1988; a RCRA Facility Assessment (RFA) completed by A. T. Kearney in March 1992; an Aerial Photographic Site Analysis completed by the EPA in September 1994; a Phase I Relative Risk Ranking System Data Collection Sampling and Analysis Report (RRR—Phase I) completed by Baker Environmental, Inc. in January 1996; a Relative Risk Ranking System Data Collection Sampling and Analysis Report Phase II (RRR—Phase II) completed by Baker Environmental, Inc. in December 1996; and the Soil Background Investigation Report completed by CH2M HILL in September 2000.

2.3.4 Site Classification

Installation Restoration Program Sites

The purpose of the 1983 IAS was to identify and assess sites posing a potential threat to human health and/or the environment due to contamination from past hazardous materials handling and operations. Eighteen potentially contaminated sites were identified based on information obtained from historical records, photographs, site inspections, and personnel interviews. Several of the IAS sites also have separate designations under the RFA. The 18 IAS sites and RFA designations are:

- Site 1 – Camp Allen Landfill
- Site 2 – Naval Magazine (NM) Area Slag Pile
- Site 3 – Q Area Drum Storage Yard
- Site 4 – Transformer Storage Area P-71 RFA M-5
- Site 5 – Pesticide Disposal Site
- Site 6 – CD Landfill
- Site 7 – Inert Chemical Landfill RFA L-3
- Site 8 – Asbestos Landfill RFA L-4
- Site 9 – Q-Area Landfill RFA L-5
- Site 10 – Apollo Disposal Site RFA M-23
- Site 11 – Repair Shop Drains
- Site 12 – Alleged Mercury Disposal Site RFA M-35
- Site 13 – Past Wastewater Outfalls RFA TP-10/M-45
- Site 14 – Oil Spill-Piers 4, 5, and 7 RFA M-24
- Site 15 – Oil Spill-Piers 20, 21, and 22
- Site 16 – Fire, Building X-136
- Site 17 – Fire, Building SDA-215 RFA C-25/AOC E
- Site 18 – Former NM Waste Storage RFA M-26

Each of the 18 sites was evaluated for the past history of potential releases, potential migration pathways, and pollutant receptors. Sampling and analysis activities were not performed as part of the IAS. The IAS concluded that 6 of the 18 sites posed sufficient threats to human health or the environment to warrant further evaluation in a confirmation study (CS).

Confirmation Studies were performed for these six (Sites 1 through 6) to confirm or refute the existence of the suspected contamination identified during the IAS. This effort for five of the six sites was documented in the 1988 IRPRI Report. An independent CS was performed by the Navy on Site 6-CD Landfill. The objectives of the Confirmation Studies were to determine the extent of contamination, develop and evaluate economically feasible remedial alternatives, and recommend a remedial action.

Since the IAS, the Navy has identified five sites (Sites 19 through 23) through historical information to be added to the IRP:

- Site 19 – Buildings V60/V90 RFA M-34
- Site 20 – LP-20 Site
- Site 21 – Building W-316 RFA M-9/M-10
- Site 22 – Camp Allen Salvage Yard (CASY) RFA C-14
- Site 23-Building LP-20 Plating Shop RFA M-29

Close-out reports documenting the NFA determination for eight of the IRP Sites (IR Sites 7, 8, 9, 10, 12, 16, 17, and 18) were prepared and approved by the NSN Partnering Team as part of a "Consensus Agreement" for reference in the Federal Facility Agreement (FFA). In fall 2000, the NSN Partnering Team revisited these sites to evaluate if the NFA determination was based on unrestricted use. For IR Sites 7, 8, 10, 12, 16, 17, and 18, soil constituent concentrations were initially compared only to industrial risk-based concentrations (RBCs). A reevaluation of the sites was performed that compared soil contaminant levels to residential RBCs. The results recommended four of the sites (7, 8, 12, and 17) for no further action and a Close-Out Report was prepared and signed by the Tier I Partnering Team in March 2001. Site 9 (Q-Area Landfill), which contains Solid Waste Management Unit (SWMU) 14 within its boundary, was recommended for a full RI/FS. Sites 10, 16, and 18 were recommended for additional investigations and the fieldwork was completed in June 2001. As a result of the investigations, Close-Out reports for Sites 10 and 16 were completed in January 2002 and May 2002, respectively. Further investigations and an expanded SI report are scheduled for Site 18 in winter 2002 and spring 2003.

IRP Sites 13, 14, and 15 were recommended for no further action under CERCLA in the FFA as these sites are being addressed under the jurisdiction of other environmental programs (underground storage tank or Virginia Pollutant Discharge Elimination System (VPDES)).

Solid Waste Management Units

In March 1992, a RFA was completed for NSN. This study was a basewide inventory of existing SWMUs and other Areas of Concern (AOCs). A total of 274 SWMUs and 10 AOCs were tentatively identified in this study. The September 1994 EPA Photographic Interpretation Center (EPIC) study of aerial photography identified 37 potential Waste Disposal Areas (WDAs). Of the sites identified by the RFA and EPIC studies, 148 were identified as having been potentially impacted. The RRR—Phase I report provided sampling results for 45 of the 148 identified sites. Of the sites sampled as part of the RRR—Phase I report, the Navy identified 25 for additional evaluation and possible investigation. These 25 sites were identified as SWMUs in the FY1996 SMP. The following list of these SWMUs includes the site's corresponding RFA/EPIC study identification:

- | | |
|--|---------------------------|
| • SWMU 1—SP-2B Accumulation Area | RFA C-83 |
| • SWMU 2—Building Z-309 Ash Hopper Storage Area | RFA M-13/M-14 |
| • SWMU 3—Building Z-309 Oil/Lubricant Storage Area | RFA AOC B |
| • SWMU 4—PWC Sandblast Area | RFA M-19/M-20; EPIC WDA-1 |
| • SWMU 5—LF-61 Waste Holding Tank | RFA M-36 |
| • SWMU 6—Building V-28 Waste Pit | RFA M-31 |
| • SWMU 7—LF-18 Aircraft Ramp | EPIC WDA-3 |
| • SWMU 8—Firefighting Training School | EPIC WDA-20 |
| • SWMU 9—LP-200/MAC Terminal | EPIC WDA- 28/29 |
| • SWMU 10—LP-200/MAC Terminal/East | EPIC WDA- 31/32/35 |
| • SWMU 11—Old Weapons Station Entrance | EPIC WDA 33/34 |
| • SWMU 12—Disposal Area Near NM-37 | EPIC WDA-36 |
| • SWMU 13—Disposal Area PWC Operations, Near NM-71 | EPIC WDA-37 |

- | | |
|---|-------------------|
| • SWMU 14 – Q-50 Satellite Accumulation Area | RFA C-17 |
| • SWMU 15 – W-130 Accumulation Area | RFA C-27 |
| • SWMU 16 – NM-37 Accumulation Area | RFA C-54 |
| • SWMU 26 – Old Mounds Northeast of NM-140/141 | EPIC WDA-21 |
| • SWMU 27 – Mason Creek Embankment | EPIC WDA-30 |
| • SWMU 28 – Probable Solid Waste Disposal South of CEP 201 | EPIC WDA-11 |
| • SWMU 29 – Solid Waste Disposal Area/CD-3/CD-4 | EPIC WDA-12 |
| • SWMU 30 – Sludge Fill Disposal Area/
Marshy Area South of Runway | EPIC WDA-15/16/17 |
| • SWMU 32 – Solid Waste Disposal Area CEP-160
Embankment | EPIC WDA-5 |
| • SWMU 33 – Debris Piled at Seawall/Corner of Sustain Pier | EPIC WDA-6 |
| • SWMU 34 – Solid Waste Disposal Area CEP-200 | EPIC WDA-7 |
| • SWMU 35 – Solid Waste Disposal Area CEP-196/
Resolute Embankment | EPIC WDA-8 |

To provide additional site data, a Phase II RRR sampling event was conducted in September 1996 with the results documented in the *Relative Risk Ranking System Data Collection Sampling and Analysis Report, Phase II, Baker Environmental, dated December 9, 1996*. During FFA negotiations conducted in 1997 and 1998, the Navy/EPA project management team, in consultation with the Naval Base Partnering Team, identified several of the 148 sites to be included as SWMUs in the FY1997 Site Management Plan. These SWMUs (and corresponding RFA/EPIC study identification numbers) are:

- | | |
|---|----------------|
| • SWMU 24 – Building LF-53 Trenches | RFA M-39 |
| • SWMU 36 – Stormwater Drainage System | RFA M-44 |
| • SWMU 37 – Q-82/78 Former PWC Parking | EPIC WDA-2 |
| • SWMU 38 – CD Area behind the Compost Yard | EPIC WDA-13 |
| • SWMU 39 – Open Dump/Boundary of Camp Allen Landfill | EPIC WDA-18/19 |
| • SWMU 40 – MCA-603 Pits | EPIC WDA-22 |
| • SWMU 41 – Disposal Area, CA-99 Golf Course | EPIC WDA-23 |
| • SWMU 42 – CEP 201 Area | EPIC WDA-9 |

Based upon the results of the two RRR studies, available historical operating data, and visual site inspections, the project management team recommended 10 SWMUs (SWMUs 5, 7, 11, 13, 15, 24, 26, 27, 29, and 30) for no further action under CERCLA in the FFA. Any concentrations of constituents in a media in an area that exceed residential RBC values (but not industrial) will require institutional controls that will be documented in accordance with the CERCLA process.

Ongoing remediation is being conducted at SWMU 37, the Q-82/78 Former PWC Parking Area, in accordance with the Virginia Underground Storage Tank (UST) regulations. The VDEQ is providing oversight of the site remediation. Therefore, the project management team reviewed information pertaining to the Site Characterization and Corrective Action Plan and has determined that no further action under CERCLA is required.

The NSN stormwater drainage system (SWMU 36, RFA M-44) is currently undergoing a \$10-million rehabilitation project. The inspection and assessment of the stormwater drainage

system has been completed and the rehabilitation (repair/replacement) is ongoing. Therefore, the project management team determined that no further action under CERCLA is required.

A CI was conducted at SWMUs 1, 4, 6, and 8 in 1996. The CI results were documented in the *Draft Report for the Solid Waste Management Unit Confirmatory Investigation Report*, CH2M HILL, dated November 18, 1996. The investigation results identified lead contamination in the soil at SWMU 1 and a removal action was conducted in October 1997. As a result of the removal, the project management team determined no further action under CERCLA is required. The CI results also indicated that additional characterization is still needed at SWMUs 4, 6, and 8. Additional investigations were completed at SWMU 8 in the summer of 1999 and as a result the site was closed-out in the spring of 2001. Additional investigations were completed at SWMU 6 in the summer of 2002 and as a result SWMU 6 was closed-out in the winter of 2002. SWMU 4 was moved from the CERCLA program to RCRA in winter of 2003 because the site remains active.

A confirmatory Site Investigation was initiated in summer 1998 for SWMUs 9, 10, 12, 14, 16, 28, 32, 33, 34, 35, 38, 40, 41, and 42. The SI's objectives were to determine the extent of contamination at each SWMU, to develop and evaluate economically feasible remedial alternatives for remedial action at contaminated SWMUs, and to close out qualified sites.

A supplemental investigation was conducted in fall 2000 for SWMUs 12, 14, 16, 38, and 39. The study's objective was to further characterize selected SWMUs. As a result of this investigation SWMUs 38 and 39 were closed-out.

No Further Action Sites

The remaining 148 sites previously identified were individually evaluated during the No Further Action (NFA) negotiations between the Navy and the EPA. These sites were not previously discussed in the SMP. The project management team determined that no further action is required for these sites and the following site information is the basis of the NFA determination.

The project management team conducted site visits and reviewed existing documentation and operational procedures, and determined no further action under CERCLA is warranted at the following sites:

- RFA C-4: Building CA-483 (A) Satellite Accumulation Area
- RFA C-5: Building CA-483 (B) Satellite Accumulation Area
- RFA C-6: Building CA-483 (C) Satellite Accumulation Area
- RFA C-7: Building CA-483 (D) Satellite Accumulation Area
- RFA C-18: Building Z-309 Satellite Accumulation Area
- RFA C-26: Building CA-501 Satellite Accumulation Area
- RFA C-61: Building LP-20 (A) Satellite Accumulation Area
- RFA C-79: LP Fuel Farm Satellite Accumulation Area
- RFA M-18: Sanitary Sewers
- RFA M-22: Sewage Waste Oil Barges
- RFA M-46: P-1 Pond
- RFA R-3: LF-68 Former Hazardous Waste Storage Area
- EPIC WDA-14: Building U-40

- EPIC WDA-24: Building LP-3
- EPIC WDA-25: Building SP-367
- EPIC WDA-26: Building SP-86

The project management team evaluated sampling data from the two RRR reports (Baker Environmental, Inc., January 1996 and December 1996), reviewed historical operating data, and conducted site field visits. Based on this analysis, the project management team recommended that no further action is required under CERCLA for the following sites:

- RFA C-9: Building W-7 (Pier 7) Accumulation Area
- RFA C-27: Building W-130 Satellite Accumulation Area
- RFA C-33: Building V-88 Satellite Accumulation Area
- RFA C-36: Building LF-53 Satellite Accumulation Area
- RFA C-71: Building SP-10 Satellite Accumulation Area
- RFA C-81: Building LF-59 Satellite Accumulation Area
- RFA C-82: Building LF-60 Satellite Accumulation Area
- RFA M-36: Building LF-61 Waste Tank Area (SWMU 5)
- RFA M-39: Building LF-53 Trenches (SWMU 24)
- EPIC WDA-3: Building LF-18 Aircraft Ramp (SWMU 7)
- EPIC WDA-4: Building V-82 Area
- EPIC WDA-12: Building CD-2/CD-3
- EPIC WDA-15/16/17: Marshy Area south of runway (SWMU 30)
- EPIC WDA-21: Northeast of Building NH-140/141 (SWMU 26)
- EPIC WDA-27: Building SP-85 Area
- EPIC WDA-30: Mason Creek Embankment (SWMU 27)
- EPIC WDA-33/34: NM-43 Old Weapons Station Entrance (SWMU 11)
- EPIC WDA-37: Building NM-71

The satellite accumulation areas (SAAs) are container storage areas used to manage various types of wastes generated from operations in the building. The SAAs are in areas designated for industrial land use; therefore, the project management team compared available analytical data to industrial screening levels. No organic compounds were detected at levels exceeding industrial Risk-Based Concentration (RBC) values at any of the SAA locations. Areas that exceed residential RBC values will require institutional controls that will be documented in accordance with the CERCLA process.

Thirty-eight of the sites are oil/water separators (O/WSs), pretreatment devices used to manage oily wastewater from various activities. No releases have been specifically identified for these units.

The following 10 O/WSs are connected with the stormwater system and the documentation of integrity and functionality inspections of the units is provided. This documentation is on file with EPA Region III. The project management team recommended no further action under CERCLA for these O/WSs.

- RFA O-2: A-81 Building (integrity inspection)
- RFA O-4: A-Area (integrity inspection)
- RFA O-11: LF-60 Building (integrity inspection)

- RFA O-31: LP-167 Area 1 (cleaned/inspected per BRAC action)
- RFA O-34: LP-167 Area 4 (cleaned/inspected per BRAC action)
- RFA O-35: LP-167 Area 5 (cleaned/inspected per BRAC action)
- RFA O-46: SP-313 (integrity inspection)
- RFA O-50: V-15 Building (cleaned/inspected per BRAC action)
- RFA O-60: Firefighting School (integrity inspection)
- RFA W-4: Q-50 (integrity inspection)

NSN has implemented a program to inspect and monitor sources discharging to the Hampton Roads Sanitation District (HRSD) under the NSN Industrial Wastewater Management Plan (IWMP). The following 14 O/WSs are managed under the IWMP program. Relevant documentation is on file with EPA Region III. Therefore, the project management team has recommended no further action under CERCLA for these O/WSs.

- RFA O-1: A-80 Building
- RFA O-3: A-127 Building
- RFA O-7: CEP-188 Building
- RFA O-10: LF-59 Building
- RFA O-23: LP-20 Building
- RFA O-32: LP-167 Area 2
- RFA O-33: LP-167 Area 3
- RFA O-36: LP-167 Area 6
- RFA O-43: SP-38 Building
- RFA O-45: SP-296 Hanger
- RFA O-55: V-49 S Area 5
- RFA O-56: V-49 W Area 6
- RFA O-59: W-6 Building
- RFA T-13: W-388

Demolition is planned or has been completed for 10 O/WSs in NSN's effort to eliminate excess structures to reduce infrastructure. Documentation for the O/WS demolition projects is on file with EPA Region III. Therefore, the project management team has recommended no further action under CERCLA for these O/WSs.

- RFA O-8: LF-38 Building (demolition planned)
- RFA O-24: LP-22 Building (demolition complete—FY98)
- RFA O-27: LP-48 Building (demolition complete—FY98)
- RFA O-30: LP-78 Building (demolition complete—FY97)
- RFA O-37: LP-176 Building (demolition complete—FY98)
- RFA O-57: V-146 Building (demolition complete—FY97)
- RFA O-61: Firefighting School (demolition complete—FY92)
- RFA O-62: Firefighting School (demolition complete—FY92)
- RFA T-31: MCE-57-1 (demolition complete—FY97)
- RFA TP-6: FFS Wastewater Pit (demolition complete—FY99)

Four O/WSs are currently inactive due to BRAC closure of NSN tenants. Cleaning of these devices has been performed as part of the facility closure process and verified with NSN

personnel. Relevant documentation is on file with EPA Region III. Therefore, the project management team has recommended no further action under CERCLA for these O/WSs.

- RFA O-9: LF-53 Building
- RFA O-25: LP-32 Building
- RFA O-51: V-27 Area 1
- RFA O-52: V-28 Area 2

The following 34 underground storage tanks (USTs)/aboveground storage tanks (ASTs) have either been removed and certified as closed by the Commonwealth of Virginia, or are active tanks regulated by the VDEQ. Records of removal and other pertinent information are on file with the EPA Region III. The project management team recommended no further action at these sites.

- | | | |
|--------------|-------------------------------------|------------------|
| • RFA T-3: | Wastewater Tank 3 Building CEP-200 | (VDEQ regulated) |
| • RFA T-10: | W-7 Building | (VDEQ regulated) |
| • RFA T-12: | W-388 Building high flashpoint tank | (VDEQ regulated) |
| • RFA T-28: | NH-94-1W Building | (VDEQ regulated) |
| • RFA T-29: | NH-94-2W Building | (VDEQ regulated) |
| • RFA T-14: | A-81 Building | (removed) |
| • RFA T-15: | A-80 Building Tank No. 1 | (removed) |
| • RFA T-16: | A-80 Building Tank No. 2 | (removed) |
| • RFA T-17: | Fire Fighting School | (removed) |
| • RFA T-20: | CEP-188 Building | (removed) |
| • RFA T-21: | V-49 Building | (removed) |
| • RFA T-22: | U-132 calibration fluid | (removed) |
| • RFA T-23: | U-132 varsol | (removed) |
| • RFA T-24: | U-132 waste oil | (removed) |
| • RFA T-26: | NH-34 Building | (removed) |
| • RFA T-27: | NH-35 Building | (removed) |
| • RFA T-30: | MCE-225-4 Building | (removed) |
| • RFA T-32: | W-6-1 | (removed) |
| • RFA T-33: | W-6-2 | (removed) |
| • RFA T-34: | W-6-3 | (removed) |
| • RFA T-35: | W-6-4 | (removed) |
| • RFA T-36: | W-196 Building | (removed) |
| • RFA T-37: | LAFB Building | (removed) |
| • RFA T-38: | NM-59 Building | (removed) |
| • RFA AOC C: | Building V-93-1 | (removed) |
| • RFA AOC C: | Building V-93-2 | (removed) |
| • RFA AOC C: | Building V-93-3 | (removed) |
| • RFA AOC C: | Building V-112-1 | (removed) |
| • RFA AOC C: | Building V-112-2 | (removed) |
| • RFA AOC C: | Building V-112-3 | (removed) |
| • RFA AOC C: | Building NM-71-A | (removed) |
| • RFA AOC C: | Building NM-71-B | (removed) |

- RFA AOC C: Building U-117 (removed)
- RFA AOC C: Building CA-501-1 (removed)

FFA Site Screening Areas

Site Screening Areas (SSAs) are areas that either pose or may potentially pose a threat to public health, welfare, and the environment. SSAs may expand or contract during the site investigation as information becomes available indicating the extent of contamination and area needing to be studied. In the NSN FFA, four SSAs are identified:

- SSA 1 Q-72 Sandblast Area (SWMU 4; RFA M-19/M-20; EPIC WDA-1)
- SSA 2 V-28 Waste Pit (SWMU 6; RFA M-31)
- SSA 3 Fire Fighting School (SWMU 8; EPIC WDA-20),
- SSA 4 NM-37 Area (SWMU 12; EPIC WDA-36); (SWMU 16; RFA C-54)

Site investigations were completed during 1998 or 1999 at each SSA. The investigations at each area detected levels of site-related constituents above RBCs. A background investigation was completed to assess if the levels also exceed background levels. Based on this information either no further action or institutional controls will be recommended for each of these sites. To date, SSA 3 has been recommended for NFA and closeout reports have been generated. SSA 2 (V-28 Waste Pit) has also been recommended for NFA and a closeout report will be completed in winter 2002. Additionally, SSA 1 (Q-72 Sandblast Area) is currently an active site, and SSA 4 was further investigated in November 2002.

FFA Areas of Concern

The FFA signed by EPA on February 18, 1999 listed eight AOCs as sites under evaluation to determine if the sites should proceed in the screening process and be investigated as SSAs, or whether the information under review supports a no further action determination. The documentation and sampling of each of these areas was discussed at the Tier I Partnering meeting on March 16, 1999. Based on the documentation and discussions, the Navy in a letter to EPA dated May 3, 1999, proposed to categorize the as follows:

Proceed to the SSP as SSAs for the following AOCs:

- AOC 2 MAC Area (SWMU 9; EPIC WDA-28/29)
(SWMU 10; EPIC WDA-31/32/35)
- AOC 4 Q-50 PWC Accumulation Area (SWMU 14; RFA C-17)
- AOC 5 CD Area behind the Compost Yard (SWMU 38; EPIC WDA-13)

In March 2000, the Project Managers of the NSN Tier I Partnership approved the Closeout Report and reached a consensus that: "no further action is required and the land use will be unrestricted" at the following AOCs:

- AOC 1 Building Z-309 Area (SWMU 2; RFA M-13/14)
(SWMU 3 RFA AOC B)
- AOC 3 CEP 201 Area (SWMU 42; EPIC WDA-9/10)
(separated from other AOC 3 sites)
- AOC 7 MCA-603 Pits (SWMU 40; EPIC WDA-22)

AOC 8 CA-99 Golf Course Disposal Area (SWMU 41; EPIC WDA-23)

In May 2000, the Project Managers of the Naval Station Norfolk Tier I Partnership also approved the Streamlined Risk Assessment Report and reached a consensus that "no further action is required and the land use will be unrestricted" at the following sites:

AOC 3 CEP Area (SWMU 28; EPIC WDA-11)
(SWMU 32; EPIC WDA-5)
(SWMU 33; EPIC WDA-6)
(SWMU 34; EPIC WDA-7)
(SWMU 35; EPIC WDA-8)

In October 2000, the Project Managers of the NSN Tier I Partnership also approved the Streamlined Risk Assessment Report and reached a consensus that "no further action is required and the land use will be unrestricted" at the following sites:

AOC 2 MAC Area (SWMU 9; EPIC WDA-28/29)
(SWMU 10; EPIC WDA-31/32/35)

In March 2001, the Project Managers of the NSN Tier I Partnership also approved and signed the Close-Out Report and reached a consensus that "no further action is required and the land use will be unrestricted" at the following sites:

AOC 5 CD Area behind Compost Yard (SWMU 38; EPIC WDA-13)
AOC 6 Open Dump and Disposal Area (SWMU 39; EPIC WDA-18/19)
at Boundary of Camp Allen Landfill

2.4 Site Descriptions

There are 12 sites at NSN that are currently being addressed by the IRP. Figure 2- 2 shows the locations of these sites relative to the Base. These sites are locations at NSN where hazardous substances have been handled, stored, or disposed of over the years of facility operations. The sites were identified during the facilitywide investigations described in Section 2.3.3 above and are described below:

- **Site 1 - Camp Allen Landfill** consists of two distinct areas (Area A, the 45-acre landfill, and Area B, the 2-acre fire disposal area). The Area A landfill operated from the mid-1940s until 1974 and was used to dispose of metal plating and parts cleaning sludge, paint-stripping residue, chlorinated organic solvents, expired chemicals, pesticides, asbestos, incinerator ash, bottom and fly ash from the Base power plant, and miscellaneous debris. Area B was used to dispose of wastes from a 1971 fire at the Camp Allen Salvage Yard (Site 22). Remedial activities at the site include a removal action that was completed at Area B in 1995 to remove the primary source of contamination as well as the installation of a groundwater extraction and treatment system in both Areas A and B. The groundwater treatment system began continuous operation in 1998 and remains active at the time of this report.
- **Site 2 - NM Slag Pile** is a 1-acre disposal area for slag generated by an aluminum smelting operation during the 1950s and 1960s. Slag is a residual cinder material formed

from the fusion of a mineral such as limestone with impurities from the aluminum ore and ash from blast furnace fuel. In addition, fly ash and/or bottom ash was also used as fill material to create a level surface to deposit the slag. Remedial activities at the site included the removal of contaminated sediments in the drainage channel adjacent to the site in 1999. In addition, soil and asphalt covers were placed over the extent of the site in 2000.

- **Site 3 - Q-Area Drum Storage Yard** was a 5-acre open earthen yard used from the 1950s to late 1980s to store tens of thousands of drums containing new petroleum products, chlorinated organic solvents, paint thinners, and pesticides. The initial site investigations showed stained and/or oil-saturated soils throughout the site, indicating spills of the stored materials. In 1987, approximately 750 cubic yards of oil-saturated soil was removed and this area of the site was paved. In addition, two air sparge/soil vapor extraction systems were installed to treat separate source areas and prevent migration of site contaminants into the Elizabeth River. These systems began continuous operation in 1998 and remain active at the time of this report.
- **Site 6 - CD Landfill** covers approximately 22 acres and incorporates two separate areas of landfill operation - the eastern section (unpermitted) and western section (permitted). The eastern section of the landfill operated from 1974 to 1979 and was used for the disposal of demolition debris, inert solid waste, fly ash, and incinerator residue. In 1979 the Naval Facilities Engineering Command received a permit from the Virginia Department of Health (VDH) to use the western portion of the landfill for disposal of demolition debris and other inert wastes. Blasting grit was deposited in the western section of the landfill until 1981 when the grit was tested and found to exceed the EP toxicity limit for cadmium. Landfilling operations continued in the western portion of the landfill until 1987. Remedial activities at the site include the partial removal of contaminated sediments in the fall of 1997. In addition, an engineered cap was installed over the site soils and remaining sediments in June of 2000.
- **Site 18 - Former NM Waste Storage Area** consists of a open unpaved yard that was used from 1975 to 1979 to store drums of hazardous waste consisting of waste oil, metal plating solutions and sludges, chlorinated organic acids, and paint stripping solutions. Spillage of waste oil and hazardous wastes occurred during utilization of the site. The nature and extent of contamination at Site 18 is still under evaluation as part of the SI phase of the CERCLA process.
- **Site 20 - Building LP-20** was used for aircraft engine overhaul and maintenance. Previous activities at the building included painting, x-ray facilities, as well as cleaning and blasting. Waste products from these activities were transferred to the industrial wastewater treatment plant via underground piping. In addition, a large fuel storage area, known as the LP Fuel Farm, is also located south of the building. An underground fuel pipeline extends from the Fuel Farm to buildings east of the site. From the 1940s to 1990s, numerous spills or releases of wastewater and petroleum have been documented, with significant releases associated with damage to the underground wastewater lines during construction activities, and leakage of the underground fuel pipeline. Remedial activities at the site include the installation of an air sparge/soil vapor extraction system

to treat contaminated groundwater as it migrates offsite. The system began continuous operation in 1998 and remains active at the time of this report.

- **Site 22 - Camp Allen Salvage Yard** operated from the 1940s to 1995 salvaging and processing scrap materials generated at NSN. Activities at the site included storage and management of waste oils, used chemicals, and scrap commercial/industrial equipment. Metal smelting, various recycling activities, and miscellaneous burning also occurred at the site. Remedial activities began with a removal action conducted from 1998 to 2001 to remove polychlorinated biphenyls (PCBs) and metals contaminated soils. In addition, a one-foot thick cover was placed over site soils in the summer of 2002.
- **Site 23 - Building LP-20 Plating Shop** operated from 1956 until 1987 to clean and replate engine parts. The shop consisted of 76 stripping and plating tanks associated underground piping to convey wastes to the industrial wastewater treatment plant. In 1989 the VDEQ conducted a site investigation that identified the shop tanks as a hazardous waste storage facility due to the presence of chemical solutions in the inactive tanks. Subsequent investigations determined that there was some soil contamination due to the previous plating activities. The shop has been partially closed under the Virginia Hazardous Waste Management Regulations (VHWMR) with the removal of the tanks and associated piping. The LP-20 Plating Shop was designated Site 23 in 2002 when the Navy and VDEQ agreed to transfer the site from the RCRA program to the CERCLA program. This site is currently being evaluated in the SI phase of the CERCLA process.
- **SWMU 12 - Disposal Area Near NM-37/SWMU 16 - NM-37 Accumulation Area.** SWMUs 12 and 16 are co-located adjacent to building NM-37 and are therefore evaluated together under the CERCLA program. SWMU 16 was a Hazardous Waste Accumulation Area located northeast of building NM-37 that consisted of a metal container used to store fuel for mowers, oils, and hydraulic fluids. There is no history of releases associated with SWMU 16, however, areas of stressed vegetation were observed during previous site visits. Since initiation of the investigation, SWMU 16 has been demolished and replaced by a newer structure. SWMU 12 was initially identified from a 1958 aerial photograph as a possible disposal area (as indicated by ground surface scarring) surrounding building NM-37. These sites are currently being evaluated in the RI phase of the CERCLA process.
- **SWMU 14 - Q-50 Satellite Accumulation Area/Site 9 - Q Area Landfill.** SWMU 14 and Site 9 are co-located and are therefore evaluated together under the CERCLA program. The Site 9 landfill operated from 1974 to 1978 and was used to dispose of construction debris. These filling activities formed much of the Sewell's Point peninsula. SWMU 14 consisted of a concrete storage pad that was constructed on top of the Site 9 landfill. The pad served as a 90-day hazardous waste accumulation area where wastes were processed (sampled, identified, labeled, and packaged) before shipping to eventual disposal. The original concrete pad for the accumulation area has since been removed. These sites are currently being evaluated in the RI phase of the CERCLA process.

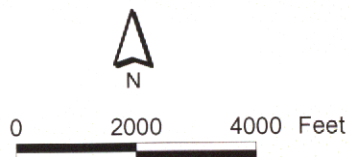


Figure 2-1
Installation Location Map
Naval Station Norfolk



LEGEND

- NFA Sites Per FFA Close-out Reports
- Remedial/Removal Action Complete
- Remedial/Removal Action in Progress
- Remedial/Site Investigation in Progress

Remaining Sites as of April 2003



0 3000 6000 Feet

Figure 2-2
Base Map With IRP Site Locations
Naval Station Norfolk

Community Background

3.1 Community Setting

NSN is located in the northwest portion of Norfolk. Norfolk is bounded on the north by the Willoughby bay, on the west by the Elizabeth River, and on the south and east by the City of Norfolk. Norfolk is located in southwestern Virginia at the mouth of the James, Elizabeth, and Nansemond Rivers. It is situated on the natural waterway called Hampton Roads and is near the outlet of the Chesapeake Bay on the Atlantic Ocean. The city is linked to the Delmarva Peninsula by the 17 mile long Chesapeake Bay Bridge-Tunnel. Norfolk forms the Port of Hampton Roads, linked by tunnel, bridge, and ferry to the cities of Newport News, Hampton, and Portsmouth.

Norfolk was founded in 1682 and later incorporated as a borough in 1736 and as a city in 1845. The city was named for Norfolk, England, the former early home of Adam Thoroughgood. In its early years, growth was dependent on trade with the West Indies as well as the shipment of products including tobacco, tar, and lumber from the plantations of Virginia and North Carolina. In January 1776, the city suffered a British naval bombardment during the American Revolution. In May 1779, it was invaded by British troops. That same year, fire destroyed every building except for Saint Paul's Church, which was built in 1739. Norfolk was rebuilt and became a shipbuilding and maritime center. However, in 1855 there was a slump in development due to an epidemic of yellow fever. 1870 marked the end of Reconstruction in Norfolk. After the Civil War, Norfolk's rich waterways and fertile farmland enabled it to quickly recover from the destruction of the war. During World War I (1914-1918), military development began. In Norfolk, industries and railroads opened the way for transportation of coal to its port (Source: "Norfolk, Virginia," Microsoft® Encarta® Encyclopedia 2000. 1993-1999. Microsoft Corporation.) The city is a leading grain-shipping point on the East Coast. Financial services, international trade, ship repair, manufacturing, and tourism are also important contributors to the economy.

Today, Norfolk is a major seaport and military center, having one of the world's largest concentrations of naval installations. Naval Station Norfolk, the largest naval base in the United States, is situated on approximately 4,600 acres of land in the northwest portion of the City of Norfolk, Virginia.

There are more than 20 major commands located in Norfolk, including the North American Treaty Organization (NATO) which oversees the entire Atlantic region, Commander, U.S. Atlantic Command, Commander in Chief U.S. Atlantic Fleet, and the Supreme Allied Command Atlantic (SACLANT).

3.2 Demographic Profile

Norfolk occupies approximately 60 square miles and is located in southeastern Virginia. Hampton Roads was ranked by Money magazine as the most livable large city in the South.

The following sections describe the historical population trends, housing occupancy, and the employment and income in the City of Norfolk. Data was gathered from the U.S Census Bureau and the Virginia Employment Commission.

3.2.1 Population and Housing

Norfolk is the second largest city in Virginia as reported in the 2000 Census, with the Virginia Beach District leading and Richmond following. According to Hampton Roads Planning District Commission, the historical population trends for the City of Norfolk follow a rise and decline cycle and are currently in a declining trend. From a population of 2,959 persons in 1790, the population grew to 307,957 in 1970. The next two decades brought a decline to 266,979 in 1980 and 261,229 in 1990. Based on the 2000 Census, the population of Norfolk is approximately 234,403 people, a decrease of 10.3 percent since the 1990 Census. The population split for Norfolk is 51.1 percent male and 48.9 percent female. Table 3-1 displays the population characteristics by race in the City of Norfolk. The median age in Norfolk was found to be 29.6 years, an increase from the 27.4 median age in 1990. Norfolk is following the national trend of "aging," with an increasing older population.

The military "family" in the Hampton Roads area is estimated to be 85,057 active and reserve military members. In addition, there are 108,000 military family members, 34,000 retired military members and survivors, and 28,125 federal civilian employees (Source: "The Navy in Hampton Roads," by the Commander, Norfolk Naval Base).

In 2000, the total number of housing units in Norfolk was 94,416. Of that number, 86,210 of the units were occupied. 8,206 of the housing units were unoccupied, which translates to a 9.5 percent vacancy rate. Homeowners occupied 39,238 of the units and renters occupied 46,972. There were approximately 28,000 home sales in 2000 with 62 percent of the sales under \$150,000. The average household size was 2.45 persons similar to the 2.55 persons in the 1990 Census.

TABLE 3-1
Demographic Data—Population Characteristics in 2000

Population Characteristics	Norfolk CDP
Total Population	234,403
White	113,358
Black or African American	103,387
American Indian and Alaska Native	1,071
Asian	6,593
Native Hawaiian and Other Pacific Islander	251
Some other race	3,923
Two or more races	5,820
Hispanic or Latino (of any race)	8,915
18 Years and Over	178,051

CDP, Census-defined place (includes unincorporated towns). Source: U.S. Census Bureau, Census 2000.

3.2.2 Employment and Income

Norfolk, Virginia is the financial and cultural center of Hampton Roads. The principal elements of Norfolk economy are finance, education, medical services, ship building and repair, conventions/tourism, and services in the military. The three main employment areas are the U.S. Navy, Service industries, and Retail Trade. The largest private employers for this area are listed in Table 3-2.

TABLE 3-2
Norfolk's Largest Private Employers

Employer Name	Nature of Business
Sentara Health System	Health Care
Bank of America	Financial Institution
Ford Motor company	Automotive Company
Children's Hospital of the King's Daughters	Health Care
USAA	Insurance and Financial Organization
NORSHIPCO	Shipbuilding and Drydock Corporation
DePaul Medical Center – Bon Secours	Health Care
Bernard C. Harris Publishing	Publishing
Landmark Communications	Media
Norfolk Southern	Railroad

Source: Virginia Employment Commission, 2nd quarter 1999.

Within the Norfolk area, there are approximately 135,258 people with 25 years of age or older that have some educational background. Of those people, 39,992 have completed high school, 16,107 have received a bachelor's degree, and 10,396 have earned a graduate or professional degree. Therefore, 19.6 percent of this population has earned a bachelor's degree or higher.

According to the latest data available from the 2000 Census, the median household income in Norfolk is approximately \$31,815. For the Norfolk area, there are approximately 123,360 people in the work force with approximately 96,122 in the civilian work force and 27,238 in the military work force. Table 3-3 contains income details for the area.

TABLE 3-3
Demographic Data – Income Status in 2000

Income Type	Dollar Amount
Median Household Income	\$31,815
Mean Earnings	\$41,187
Mean Social Security Income	\$9,895
Mean Supplemental Security Income	\$5,503
Mean Public Assistance Income	\$2,266
Mean Retirement Income	\$18,214

Source: U.S. Bureau of the Census, 2000 Census.

3.3 Community Issues and Concerns

Twenty members of the community volunteered to be interviewed during January and February 2003. They were asked to identify concerns with respect to environmental issues and offer suggestions on improving communication between NSN and the neighboring community. Environmental conditions are investigated through the IRP which identifies, evaluates, and cleans up or controls contamination from past, formerly accepted hazardous waste disposal practices and hazardous material spills. Most interviews were conducted by telephone while others were conducted by fax or email. A sample interview form is provided in Appendix A.

Community interviews were conducted with persons who represent the views of a broad cross-section of the NSN community. Table 3-4 provides a profile of the community members that were interviewed as part of this CRP.

All of the interviewees live or work in Norfolk, most having been a resident of the community for over 20 years. More than half of the community members have worked or have a relative or friend that work at NSN. Their job positions at NSN included the Restoration Department, the Fleet and Industrial Supply Center, Golf Course, and the Commissary at NSN.

TABLE 3-4
Profile of Community Interview Participants

Participants	Participants
Environmental Organization Employee	5
Elected Official	1
Civic League / Resident	7
Business Owner	3
School Employee	2
Navy Personnel	2
Total Interviewed	20

Based on the comments and responses received at the time of the interviews, the community's current key issues and concerns regarding the NSN can be identified and organized into the following categories:

- Awareness of Installation Restoration Program
- Current Environmental Installation Restoration Program and Related Concerns
- Economic Impacts to Local Community
- Reliability of Local Press and Media
- Current Community Relationships with NSN
- Future Involvement with Environmental Activities at NSN
- Additional Comments and Suggestions

The issues and concerns were voiced during the community interviews and are discussed in the remainder of this section.

3.3.1 Awareness of Installation Restoration Program

The twenty community members interviewed were asked if they were aware of any environmental clean-up activities that had taken place at NSN. Fifty percent of the interviewees were aware of some clean-up activities, with the majority having been made aware of the activities because of their line of work or involvement with a civic league. Of those that answered 'yes' to this question, five were involved or knew someone who was

involved with the clean-up activities. Two individuals were familiar with the restoration activities occurring at Camp Allen (Site 1) and one other individual was aware of a PCB clean-up at NSN.

3.3.2 Current Environmental IRP and Related Concerns

When the community members were asked if they had concerns about environmental issues at NSN, 40 percent of the interviewees indicated they did have concerns. Two individuals indicated concern with petroleum releases on and off base. Others concerned ranged from vehicles and equipment on base to airplanes flying over neighboring residential areas. One nearby resident reported seeing a release of spray from overhead airplanes on several occasions and thinks this may be an environmental concern. One interviewee raised concerns with releases from outfalls into the surrounding bays and rivers and recommends monitoring if that is not already taking place. Two other community members, also NSN employees, wanted to see better waste management on NSN and suggested efforts to reduce litter across base property and encourage a recycling plan within all commands. Both school employees were concerned with potential hazards from a ditch located behind Camp Allen Elementary School. Of those that did not express concerns, 42 percent indicated that NSN was doing their best to address environmental issues.

The majority of the interviewees, however, did not have health concerns related to NSN environmental practices. Two individuals indicated that they felt NSN had good environmental practices.

3.3.2 Economic Impacts to Local Community

Interviewees were asked if they felt that property values were effected by NSN environmental practices. Seventy-five percent do think NSN environmental practices affect property values, ten percent believe there was no affect on property values, and 15 percent of the interviewees were not certain or had no comment.

The majority of the people indicated a direct relationship with environmental quality and property values. One interviewee commented that any environmental problem would affect property values, especially if there were health and safety concerns. Another community member stated that uncertainties regarding the environmental practices in the area could lower the value of property, while areas of good environmental quality would have a better value. A former real-estate agent did not see a correlation between the two in his line of work. In addition, a nearby resident felt that the City of Norfolk had more of an influence on property values than the Navy did.

3.3.4 Reliability of the Local Press and Media

The twenty interviewees were asked what they perceived to be the most reliable way to receive information. Forty-five percent reported the newspaper to be better than satisfactory as a source of information while 30 percent saw the newspaper as less than satisfactory. A couple of interviewees recalled instances when they were at the scene of an environmental concern with newspaper reporters and when the news was covered in the paper, the story coverage was not correct. The most commonly read local newspaper by our interviewees is The Virginian Pilot.

Twenty-five percent of the community members said television rated satisfactory when it came to a reliable source of information. Thirty percent viewed television as less than satisfactory and 30 percent viewed it as better than satisfactory. Fifteen percent of the interviewees were not sure or did not comment. Commonly watched television stations by our interviewees include NBC, ABC, and CNN.

Radio is viewed as a satisfactory source of information by 30 percent of the interviewees. Twenty-five percent viewed radio as less than satisfactory and twenty-five percent viewed it as better than satisfactory. Thirty-five percent of those interviewed were not certain or did not comment. Specific radio stations mentioned during the survey included 93.7 the Coast, 94.9 the Point, 101.3, 850 AM, and NPR.

Only 10 percent reported receiving information through friends as very reliable. With the use of direct mailings and Websites as a source of information, interviewees were concerned with who was supplying these sources. One person mentioned that the Website they visited provided a limited amount of information while another person is hesitant about receiving direct mailings originating from special interest groups.

One interviewee suggested that presentations to civic leagues allowing for question and answer periods may provide better alternatives to these current methods of receiving information concerning the environmental clean-up issues at NSN. One other interviewee stated their willingness to meet with NSN directly to discuss community concerns.

3.3.5 Current Community Relationship with NSN

Several questions contained in the survey focused on communication procedures as they related to the IRP and NSN. Most individuals currently receive information concerning the IRP at NSN via the newspaper and/or co-workers. A smaller percentage, presently rely on television, radio, or friends.

The percentage of interviewees with prior contact with environmental agencies and/or Navy officials regarding environmental issues/cleanups at NSN was split 50/50. Of those having contact concerning these issues, 40 percent stated that their involvement was work related.

The group was asked what type of information they would like to receive from NSN concerning environmental clean-up activities, if any. Thirty percent were not interested in receiving information. The remaining 60 percent wanted information including clean-up efforts both past and present at NSN, potential environmental and health risks from NSN activities, best management practices (BMPs), and other proactive measures to reduce pollution. One individual believes that the best way for the community to know what is going on would be for NSN to come to civic meetings and keep the members up to date on current events and send out newsletters to the community. Eighty-five percent of the interviewees showed interest in receiving NSN environmental information. When asked how often they would like to receive information, more people thought it appropriate to receive information only when significant or major events occurred. Other responses as to the frequency with which interviewees would like to receive information include daily, monthly, quarterly, biannually, and annually.

Because the Internet is such a significant source of information, this survey included a question concerning Internet access. Eighty percent reported having access to the Internet with the majority preferring to receive information from NSN by email.

The interviewees were asked to rate certain aspects of NSN's relationship with the surrounding community. When asked about a trusting relationship with the community, only two community members believed it was less than satisfactory, the remaining 18 believed a more positive relationship existed. Seventy percent viewed open communication between NSN and the community as satisfactory to excellent. However, one community member stated never receiving information from NSN therefore rating it as poor. Thirty-five percent of the interviewees rated NSN's involvement with the community as satisfactory while forty percent believed it was better than satisfactory to excellent. Fifteen percent felt involvement from NSN was less than satisfactory or poor and the remaining 10 percent had no comment. Environmental stewardship from NSN rated highly by the interviewees with only four members rating it less than satisfactory.

Suggestions for improving the relationship between NSN and the community are as follows:

- Improve communication by providing information on a "less technical" level.
- More dialogue between NSN and community. Currently, I see communication occurring at the higher levels and not to the general community.
- Broaden representation to different communities. Enhance communication and participation.
- Improve communication by having NSN representatives come to the civic league meetings, where the two groups can ask and answer questions.
- Increase the visibility of NSN senior members in the community. Let the community know of their involvement.

One community member felt that the military in Norfolk and Hampton Roads Area had a good relationship. "They are in constant communication with the local city governments and (when they can) have been open to questions asked by the local press. Being a government facility, they cannot always release information because of confidentiality status."

3.3.6 Future Involvement with Environmental Activities at NSN

Five of the people interviewed have been involved with environmental activities at NSN. The activities mentioned were Clean the Bay Day, recycling, and tree planting. Ten percent of the interviewees were not aware that these activities existed and 80 percent stated they would like to continue involvement with environmental activities at NSN or have an interest in getting involved. Many of those interviewed expressed interest in receiving more information from NSN regarding the type of environmental activities in which the community could participate.

When asked whether or not the interviewees had prior knowledge about the Restoration Advisory Board (RAB), only twenty-five percent responded they were aware of the RAB. Regarding interest in serving on the RAB, 65 percent reported that they would be interested on serving on the RAB. Sixty percent wanted to receive additional information concerning the Environmental Restoration Program function at NSN. One community member

suggested having a delegate from the Norfolk Federation of Civic Leagues serve on the RAB board to pass along information between the community and NSN. More information concerning RAB functions and goals are discussed in Section 4.2.3.

When asked if they would like to participate in some other way at NSN, the common response was "what are some other ways?" Fifty percent replied that they have an interest in getting involved. Some suggested being a part of an environmental club at NSN while another individual showed interest in helping NSN with public relations and restoration projects.

3.3.7 Additional Comments and Suggestions

Forty-five percent of the population interviewed offered additional comments at the conclusion of the survey. The majority of the interviewees indicated the want and need for more communication between NSN and the neighboring community. Specific comments included:

- "Improvement of communication. NSN representatives should join in on a meeting of the Mayors Task Force at Oceanview. Meetings are every third Thursday of each month. Call City Clerk for more information."
- "I believe that the RAB is a good program."
- "Navy keeps us informed. They are really accommodating."
- "As far as environmental stewardship - the grounds that are Navy property are well maintained; however, improvement is needed in the surrounding communities. I would like to see the civic leagues and NSN working together to make decisions that would bring in better businesses in the area and get rid of negative businesses. I would like the Navy to support the National Night Out program in August, combating crime in neighborhoods. We would like the Navy to participate in the Keep America Beautiful Campaign. The campaign would require adopting an area in the surrounding community to keep clean. Would like open dialogue between the community and the base. I have written the Admiral but have not received any response. I would like the Admiral to contact me by phone or email."
- "I would like for Hampton Blvd., at the entrance and on the base to be beautified."
- "My main complaint would be to the City of Norfolk and not the Navy as far as beautification around the base goes. The Navy keeps their property clean, but the surrounding areas need improvement."
- "Concerns - Are the planes dumping any fuels over our neighborhood? People want to know what is going on. If we do not hear anything, then we may assume the worst. The Fleet Park - Why are they moving the ball fields, we liked them where they were. Is the new location safe for kids to play on? I want to know more about the remedial plans for this area."
- "Asbestos may be a problem. Asbestos, itself, (in rope form) enters my building in paper bags. We may not know what it is until we open it. There is a room in my building where it is stored and I do not think that it is properly handled."

Highlights of the Community Relations Program

4.1 Program Highlights

NSN encourages and welcomes public participation throughout the IR process. The cornerstone of the IR community relations is the Restoration Advisory Board (RAB). The community's knowledge of environmental activities, as well as IR staff awareness of community interests and concerns, has been advanced through active public involvement with the RAB.

To augment the RAB, public meetings are held to provide information and solicit comments at IRP decision points. Awareness has been increased by distributing news releases and information, establishing information centers in local libraries, and by holding community information meetings and public hearings. All technical reports and other documents pertaining to the IR program are available to the public at the Kirn Memorial Main Library in Norfolk.

4.2 Techniques and Timing

The Navy will continue to be proactive in its community relations effort at NSN and initiate additional community relations activities to keep the adjacent communities and other interested parties well informed about the remedial activities related to the IRP sites at NSN. These activities will also promote the various opportunities for the public to express their viewpoints and participate in the decision-making process.

Each community relations activity relative to the cleanup schedule for the NSN IRP sites are discussed in detail below. Activities and their approximate timing are as follows.

4.2.1 Designate Navy Contacts to Maintain Ongoing Communication

The Navy has identified John Ballinger as the Community Outreach Coordinator for the IRP at NSN. In this role, Mr. Ballinger serves as the central information source for public and media inquiries. As key spokesperson, he will answer telephone calls and respond to written inquiries about site activities. He will keep a logbook of all citizen requests and comments and how each one was handled to ensure a documented record of community response. Mr. Ballinger may be reached at (757) 433-3443.

4.2.2 Conduct Informal Meetings and Maintain Telephone Contact

Navy officials will hold regular meetings as necessary with federal, state and local officials, and other interested groups, using flexible formats adapted to each audience. The Navy will distribute pertinent information from technical reports as appropriate. Navy officials will maintain telephone contact, use electronic mail, and send faxes as needed to keep these parties informed of base activities and to coordinate releases of public information.

4.2.3 Conduct Regular Meetings of the Restoration Advisory Board

The highlight of the IR community relations program ongoing success is the RAB. The RAB was first established at NSN in 1994.

A RAB is an advisory unit made up of community members, local environmental group members, and state, and federal officials. The RAB is designed to function as a focal point for the exchange of information between NSN and the local community regarding environmental restoration activities. The RAB is intended to bring community members with diverse interests within the local community together with government officials representing the Navy, the EPA and the Virginia Department of Environmental Quality (VDEQ). This partnership enables the early and continued two-way flow of information, concerns, values, and needs between the community and NSN.

The NSN RAB is co-chaired by a Navy representative, Mr. Channing Blackwell, and a community member, Mr. Jack Ruffin, who is elected by other community members. The RAB meets semi-annually to review technical documents and discuss cleanup actions and alternatives. All RAB meetings are open to the public and are advertised in local newspapers.

The IR team has provided RAB members with environmental training so they can effectively help disseminate information to the rest of the community. The RAB focuses on developing a strong relationship with the local residents and environmental groups. These relationships are the foundation for fostering trust and creating an effective environmental community relations program.

A current list of RAB members is provided in Appendix B.

Technical Review Committee

Before the RAB was established at NSN in 1994, community members participated in the IR process through the Technical Review Committee (TRC). The TRC was a smaller group with a less extensive community membership than the present RAB. The TRC was first established in 1989 and served as the basis for the RAB formation in 1994.

Restoration Advisory Board Activities

The NSN RAB meets semi-annually. All RAB meetings are open to the general public and are usually announced two weeks prior to the scheduled meeting in the local newspaper by the NSN Environmental Outreach Coordinator.

Technical Assistance Grants (TAG)

Administered by the EPA, the Technical Assistance Grants (TAG) program is an avenue under which grants are made available by the Office of the President to any group of individuals that may be affected by a release of threatened release at any installation on the NPL. Such grants can be up to \$50,000 for a single grant recipient. TAG may be used to obtain technical assistance in interpreting information about the nature of the hazard, RI/FS, ROD, RD, selection and construction of the RA, operation and maintenance, or removal action at a facility. EPA has specific guidelines for groups that apply for and administer TAG grants

Because NSN is listed on the NPL, the RAB (or other concerned groups) are eligible to apply for TAG grants. Information about the TAG program has been presented at RAB meetings and pamphlets about the program have been distributed at subsequent meetings.

Technical Assistance for Public Participation

On February 2, 1998 (*Federal Register* Volume 63, Number 21), DoD published a final rule establishing a new program called Technical Assistance for Public Participation (TAPP). This program provides a mechanism for RABs (or TRCs) to obtain technical assistance to help them better understand and provide input into environmental restoration programs. Examples of TAPP projects include reviewing restoration documents and proposed remedial technologies, interpreting environmental health effects, participating in relative risk ranking exercises (which are used to prioritize restoration activities at a facility), and certain types of technical training.

Community members of a RAB can define a proposed TAPP project and prepare a TAPP request. The Navy prepares a Statement of Work and procures a qualified technical assistance provider through an accelerated procedure based on purchase orders. As necessary, the RAB may be asked to assist by commenting on potential providers. Once a provider is hired, the Navy funds the purchase orders, up to \$25,000 per year or one percent of the total restoration cost, whichever is less, with a limit of \$100,000 total over the life of the program at any one installation.

Since inception of the rule, the Navy has trained personnel in the TAPP process and produced presentation material. The RAB may request TAPP presentations or training through their Navy Facility Co-Chair.

4.2.4 Prepare Fact Sheets to Update Community Members

Fact sheets are prepared, during the course of environmental activities, to provide citizens with a better understanding of the issues and the approach to the cleanup process. Examples of fact sheets are provided in Appendix G.

Fact sheets typically provide the following information:

- Site location
- Site history
- Actions performed and current status
- Site map
- A description of the issues

4.2.5 Maintain and Update a Mailing List

The Navy maintains and updates a mailing list of key contacts related to IRP activities. Mailings are used to announce public comment periods and to invite interested members of the public to RAB meetings and other public meetings. Any interested citizen and groups are added to the list upon request. The mailing list can be expanded through the process of making contacts through community interviews.

4.2.6 Prepare News Releases and Hold News Conferences

The purpose of news releases and press conferences is to provide timely, accurate information to the local media, as needed. Navy officials will prepare news releases and/or hold news conferences to report major site events and to announce public meetings and other opportunities for public involvement. In particular, news releases may be issued:

- At the beginning of the RI/FSs sampling and analysis
- At the completion of the RI/FSs
- At the commencement of the public comment period on the alternatives identified in the RI/FS Report and Proposed Plan
- When final engineering designs are made available

The Navy will distribute news releases to local, known media, such as the *Virginian Pilot*. On occasion the Navy may contact a local television or radio station to announce public meetings or to report on site events. The Navy will attempt to notify federal, state, and local officials in advance of releasing a major news item to the media.

The Environmental Outreach Coordinator will assess the need to any news conference based upon the level of interest shown both by the media and the public during the IRP process. Should such a briefing be necessary, the Environmental Outreach Coordinator will arrange the event, identify possible speakers and prepare them for media questions, and develop press kits.

4.2.7 Conduct Public Availability Sessions

The Navy may conduct informal public availability sessions as needed throughout the IRP at NSN, when new information becomes available or at significant milestones such as the completion of the RI or answer questions from the community. The Navy will make every effort to involve federal state and local government and health officials in these meetings to supplement the technical expertise offered by Navy contractors.

Upon completion of milestone environmental activities, Navy officials may hold a public availability session with the local community to discuss the findings and plans for the site. Other sessions may be considered at the completion of an Engineering Evaluation/Cost Analysis, at the completion of the cleanup designs, and before the cleanup actions begin.

4.2.8 Hold Public Meetings and Provide a 45-Day Comment Period

Navy Officials will conduct the required public meetings as necessary to solicit public comments from residents of nearby communities on major decisions regarding the NSN IRP.

The Navy will hold a public meeting for Proposed Remedial Action Plans. In advance of the meeting, the Navy will issue a Proposed Plan and publish a notice announcing a 45-day comment period (per FFA) in a major local newspaper of general circulation. The notice will include a brief summary of the Proposed Plan and advertise the availability of the Final RI/FS Report and the Proposed Plan in the information repository.

The public meeting will be scheduled at a time to encourage the greatest possible participation and will focus on soliciting comments from the public. The meeting will be publicized at the opening of the public comment period and will be held during the 45-day comment period.

During the public meeting, Navy officials will discuss the findings of the RI/FS Report, the various cleanup alternatives, the Navy's preferred cleanup/treatment alternative, and the rationale for the choice. Members of the public will have an opportunity to ask questions and make comments at the meeting. A court reporter/stenographer will prepare a transcript of the public meeting. The transcript will be made available to the public and will become part of the administrative record. Also, the transcript will be placed in the information repository within 2 weeks of the public meeting.

Community members also may submit written comments on the Proposed Plan during the public comment period. The public comment period can be extended an additional 30 days if requested by the public.

4.2.9 Prepare a Responsiveness Summary

At the conclusion of the public comment period for the Proposed Plan, a Responsiveness Summary will be prepared to aid the Navy in reaching a decision about the remedial alternative. The summary will inform the Navy decision-makers about the community preferences with respect to specific remedial alternatives, as well as general community concerns. It also provides the public with documentation of citizen concerns and Navy responsiveness to those concerns. The Navy then will issue a Record of Decision (ROD) that will document the cleanup alternatives that have been selected for use at the NSN sites.

The ROD and Responsiveness Summary will be available for public review in the information repository prior to the start of the cleanup action.

4.2.10 Maintain an Information Repository

Navy officials have established an Information Repository file at the Kirm Memorial Main Library. Documents in the repository are available for public inspection during normal library hours. Hours of operation are as follows:

Monday–Thursday	10:00 a.m. to 9:00 p.m.
Friday	10:00 a.m. to 5:30 p.m.
Saturday	1:00 p.m. to 5:00 p.m.

The location of the repository will be included in public notices and fact sheets, as appropriate. The repository will include the CRP, site reports, technical summaries, press releases, fact sheets, transcripts, RAB information, and general Superfund literature. Publicity regarding the repository is included in each press release.

The Environmental Outreach Coordinator is responsible for maintaining the repository and ensuring that documents are added to the information as work continues at the NSN sites.

4.2.11 Establish an Administrative Record File

The Navy has established an Administrative Record file for NSN and it is located at Kirm Memorial Main Library.

The location of the Administrative Record is located in Appendix D. The file contains all information used by the Navy to make its decision on the selection of a response action (long-term cleanup) for the NSN sites.

4.3 CRP Development

This CRP update identifies community concerns and details community relation activities that have been and will be conducted to encourage public participation in the IR program. It also provides guidance from regulatory documents and suggestions for both current and future actions and/or investigations that may affect the level of community involvement.

Twenty interviews were conducted in January and February 2003 with members of the local community. A sample questionnaire is included in Appendix A. The Navy intends to implement the techniques outlined in this CRP, as appropriate. Navy officials will review the CRP during the course of NSN site activities with regard to changing community concerns and information needs as they become known. In particular, the Navy will review the CRP after the ROD has been written but before RD activities have started, and if necessary will revise the document to reflect the community's changing concerns.

The revised CRP will assess the success of the community relations program to date and outline community relation activities appropriate to the RD and RA phases. The Navy may conduct additional community interviews at this time. During its review, Navy officials may:

- Update facts and verify information on the CRP
- Assess the community relations program to date and indicate if the same or different approaches will be taken during the RD/RA
- Develop a strategy to prepare the affected communities for future roles during the remedial process

Interest in NSN environmental restoration activities is moderate to high, as evidenced by the summary of the interview results in the preceding chapter.

4.4 Local Media

Appendix F contains a list of the local media around NSN including addresses and telephone numbers for area radio stations, television stations, and newspapers.

Appendix A

Sample Questionnaire

**Naval Station Norfolk
Community Relations Plan
Community Interview**

February 2003

Interviewee:

Affiliation:

(NSN employee, local resident, business owner, civic or public interest organization, military, homeowner association public or elected official)

Address:

Contact Number:

E-mail Address:

Date:

Interviewer:

Background Information:

NSN is the largest naval base in the world encompassing 4,631 acres of land in the northwest portion of the City of Norfolk, Virginia. NSN includes approximately 4,000 buildings, 20 piers, and an airfield. The western portion of NSN is a developed waterfront area containing the piers and facilities for loading, unloading, and servicing naval vessels.

During World War II major construction projects were completed, including a power plant, numerous runways and hangars, a tank farm, and several barracks/housing complexes. NSN has expanded to become the world's largest naval installation, with 105 ships home-ported in Norfolk.

The service and maintenance of ships, loading, unloading, the handling of fuels and oils used aboard the vessels, and ship and aircraft repair operations are some of the non-military related activities that occur at the NSN. Maintenance consists of paint stripping, patching, parts cleaning, repainting, engine overhauls, sandblasting, and metal-plating processes.

The mission of NSN is to provide fleet support and readiness for the U.S. Atlantic Fleet.

Community Relations Plan:

Community interviews provide an opportunity for soliciting information needs and concerns, and determine how or when citizens would like to become involved. A Community Relations Plan outlines community-specific strategy for responding to public concerns/opinions identified in the interview process. A diverse group of individuals or groups will be represented in the interview process including:

Local residents	Elected officials	Community groups	Schools
Business	Media	Military personnel	Environmental Groups

FOR CLASSIFICATION ONLY.

ALL RESPONSES ARE CONFIDENTIAL AND RECORDED AS STATISTICAL TOTALS ONLY.

Instructions:

There are no right or wrong answers. All responses will remain confidential and are recorded as statistical data only.

INTERVIEW QUESTIONS					
1. How long have you been a resident of the community?					
2. What is your current relationship with NSN?					
3. Have you ever worked or do you presently work at NSN? (i.e., military, civilian, contractor, etc.)					
If so, for how long were you employed at NSN?					
4. Do you have relatives or friends who work at NSN?					
5. Are you aware of any environmental cleanup activities that have taken place in the past at NSN?					
If yes, when did you learn about these?					
If yes, were you or anyone you know involved?					
6. Do you have any current concerns about environmental issues at NSN?					
7. How do you currently receive information concerning environmental issues at NSN?					
					Check Here
Newspaper					
Friends					
Television					
Radio					
Website					
Other					
8. What do you perceive to be the most reliable way to receive information?					
					Check Below
	1	2	3	4	5
	Least Reliable	Less than Satisfactory	Satisfactory	Better than Satisfactory	Most Reliable
Newspaper					
Which newspaper:					
Radio					
Which radio station:					
Television					
Which television station:					
Friends					
Website					

FOR CLASSIFICATION ONLY.

ALL RESPONSES ARE CONFIDENTIAL AND RECORDED AS STATISTICAL TOTALS ONLY.

Community Meeting/Open House					
Direct Mailings					
Other:					
Comments:					
9. Do you have school age children?					
10. Do your children learn about environmental issues in school?					
11. On a scale of 1 to 5, with 5 being Excellent and 1 being Poor, how would you rank NSN's relationship with the surrounding community?					
	1 Poor	2 Less than Satisfactory	3 Satisfactory	4 Better than Satisfactory	5 Excellent
Trusting Relationship					
Open Communication					
Committed					
Satisfactory					
Involvement in the Community					
Environmental Stewardship					
12. How can the relationship improve between NSN and the community?					
13. Do you think NSN environmental practices affect property values? If so, explain.					
14. Do you have a groundwater well? If so, what do you use the well for?					
15. Do your neighbors have a well? If so, what do they use their well for?					
16. Do you have health concerns involving environmental practices at NSN?					
17. Have you had contact with base officials regarding environmental issues/cleanups at NSN? If any, please explain.					

FOR CLASSIFICATION ONLY.
ALL RESPONSES ARE CONFIDENTIAL AND RECORDED AS STATISTICAL TOTALS ONLY.

18. What type of information would you like to receive concerning the environmental cleanup at NSN?		
19. How frequently would you like to receive NSN environmental information?		
20. Have you been involved in any environmental activities at NSN? (Examples: recycling, nature walks, tree planting) If so, please explain.		
21. Would you be interested in getting involved with environmental activities at NSN? If so, please explain.		
22. Do you know about the Restoration Advisory Board (RAB)?	Yes	No
23. Would you be interested in serving on the Restoration Advisory Board?	Yes	No
24. Are you interested in receiving additional information concerning the Environmental Restoration Program function at NSN? If so, explain.		
25. Do you currently have access to the internet?		
26. Would you want to receive information through e-mail?		
27. Would you like to participate in some other way at NSN? If so, explain.		
28. Do you know someone who might like to become involved?		
28. Do you have any other comments or suggestions?		
<p>Your participation is important to the success of the community relations between NSN and the community. Thank you for taking time to complete this survey. This information will be used to promote and enhance relationships between NSN and the community.</p>		

FOR CLASSIFICATION ONLY.
ALL RESPONSES ARE CONFIDENTIAL AND RECORDED AS STATISTICAL TOTALS ONLY.

Appendix B

Restoration Advisory Board Members

APPENDIX B

Naval Station Norfolk Restoration Advisory Board Members

Mr. Jack Ruffin, Community Co-Chair
Post office Box 62601
Virginia Beach, VA 23466

Mr. Channing Blackwell, Navy Co-Chair
Naval Station Norfolk
Norfolk, Virginia 23505
(757) 322-4813

Mr. Fred G. Adams
154 E. Edgewater Drive
Virginia Beach, VA 23464

Ms. Anna Lee Bamforth
Mr. C. Allan Bamforth, Jr.
2207 Hampton Boulevard
Norfolk, VA 23517-1507

Mrs. F. L. Bozart
326 Beechwood Avenue
Norfolk, VA 23505

Mr. and Mrs. George Burres
434 Woodview Avenue
Norfolk, VA 23505

Mr. and Mrs. Charles Chapman
425 Woodview Avenue
Norfolk, VA 23505

Mr. Joseph Harriman
200 Forest Avenue
Norfolk, VA 23505

Mr. Junior E. Johnson
935 Hannah Street
Norfolk, VA 23505-2018
Mr. Aneil Kumar
Pembroke One Bldg. Suite 318
Virginia Beach, VA 23462

Mr. Nathaniel Riggins
1106 Matthew Henson Street.
Norfolk, VA 23505

Mr. Lee Rosenberg
Manager, Environmental Services
City of Norfolk City Hall Building Room
403
Norfolk, VA 23501

Mr. Robert Sears
Radiological Control Office
Building 276
Portsmouth, VA 23709

Mr. and Mrs. Kenneth Teets
420 Woodview Avenue
Norfolk, VA 23505

Mr. C. R. Thompson
1136 Rollingwood Arch
Virginia Beach, VA 23464

Appendix C
Public Meeting Dates (2001–2003)

APPENDIX C

Public Meeting Dates

Meeting Date	Purpose
9/12/2001	RAB and Public Meeting
1/16/2002	RAB Meeting
6/4/2002	RAB Meeting
11/19/2002	RAB Meeting
5/13/2003	RAB Meeting

Appendix D
Locations for Information Repository and
Administrative Record Files

APPENDIX D

Proposed Information Repository Location

Kirn Memorial Main Library
301 East City Hall Ave.
Norfolk, VA 23510
Phone: (757) 664-READ

Hours of Operation:

Monday–Thursday	10:00 a.m. to 9:00 p.m.
Friday	10:00 a.m. to 5:30 p.m.
Saturday	1:00 p.m. to 5:00 p.m.

Appendix E
Program Points of Contact

APPENDIX E

Program Points of Contact

Navy Project Management

Commander

Atlantic Division

Naval Facilities Engineering Command

Code EV22WJ

1510 Gilbert Street (Bldg. N-26)

Norfolk, Virginia 23511-2699

Attention: Ms. Winoma Johnson

Remedial Project Manager

(757) 322-4587

Naval Station Norfolk

Commander Navy Region Mid-Atlantic

Naval Station Norfolk

Norfolk, Virginia 23505

Attn: Mr. Channing Blackwell

IR Program Director

(757) 322-4813

Regulatory Agencies

U.S. Environmental Protection Agency

Region III

1650 Arch Street

Philadelphia, Pennsylvania 19103-2029

Attn: Mr. Todd Richardson

Regional Project Manager

(215) 814-5264

Virginia Department of Environmental Quality

Solid Waste Division

629 East Main Street

Fourth Floor

Richmond, Virginia 23219

Attn: Mr. Devlin Harris

Remedial Project Manager

(804) 698-4226

Appendix F

Local Media

Local Media

Radio Stations

WAFX

870 Greenbrier Circle
Suite 399
Chesapeake, VA 23320
(757) 366-9900

WCMS

5589 Greenwich Road
Suite #200
Virginia Beach, VA 23462
(757) 671-1000

WFOS

1617 Cedar Road
Chesapeake, VA 23322
(757) 547-1036

WGH

5589 Greenwich Road
Virginia Beach, VA 23462
(757) 671-1000

WHRV

5200 Hampton Boulevard
Norfolk, VA 23508
(757) 889-9400

WJCD

1003 Norfolk Square
Norfolk, VA 23502
(757) 466-0009

WKOC

999 Waterside Drive
Norfolk, VA 23510

WLQM

123 South Street
P.O. Box 735
Franklin, VA 23851
(757) 563-3135

WNIS

999 Waterside Drive
Norfolk, VA 23510
(757) 640-8500

WNOR

870 Greenbrier Cir.
Chesapeake, VA 23320
(757) 366-0055

WNVZ

236 Clearfield Ave.
Suite 206
Virginia Beach, VA 23462
(757) 497-2000

WODC

Suite B
3177 Virginia Beach Blvd.
Virginia Beach, VA 23452
(757) 498-9632

WPCE

645 Church St.
Norfolk, VA
(757) 622-4600

WPMH

2202 Jollif Road
Chesapeake, VA 23320
(757) 488-1010

WPTE

236 Clearfield Ave.
Suite 206
Virginia Beach, VA 23462
(757) 497-2000

WRJR

410 Briar Hill Road
Norfolk, VA 23502
(757) 461-6767

WROX

999 Waterside Drive
Norfolk, VA 23510
(757) 640-8500

WSVV

1003 Norfolk Square
Norfolk, VA 23502
(757) 466-0009

WSVY

1003 Norfolk Square
Norfolk, VA 23502
(757) 466-0009

WTAR

999 Waterside Drive
Norfolk, VA 23510
(757) 640-8500

WTJZ

553 Michigan Drive
Hampton, VA 23669
(757) 723-1270

WVKL

236 Clearfield Ave.
Suite 206
Virginia Beach, VA 23462
(757) 497-2000

TV Stations**WAVY TV**

300 Wavy St.
Portsmouth, VA 23704
(757) 393-1010

WGNT TV

1318 Spratley St.
Portsmouth, VA 23704
(757) 393-2501

WHRO TV

5200 Hampton Blvd.
Norfolk, VA 23508
(757) 393-4343

WTVZ TV

900 Granby Street
Norfolk, VA 23510
(757) 622-3333

WVBT TV

243 Wythe Street
Portsmouth, VA 23704
(757) 393-4343

WVEC TV

613 Woodis Ave.
Norfolk, VA 23510
(757) 625-1313

WTKR TV

PO Box 300
Norfolk, VA 23501
(757) 446-1000

Newspapers

Currents

150 West Brambleton Ave.
Norfolk, VA 23510
(757) 446-2314

Daily Press

7505 Warwick Blvd.
Newport News, VA 23607
(757) 247-4800

The Flagship

6506 Hampton Blvd.
Norfolk, VA 23508-1273
(757) 857-1212

Virginia Pilot and Ledger Star

150 West Brambleton Ave.
Norfolk, VA 23510
(757) 446-2314

Chesapeake Post

1024 Battlefield Blvd.
Chesapeake, VA 23320
(757) 547-4571

New Journal & Guide

362 Campostella Rd
Norfolk, VA 23523
(757) 543-6531

Portsmouth Times

1024 Battlefield Blvd.
Chesapeake, VA 23320
(757) 397-7606

Suffolk News Herald

130 S. Saratoga Street
Suffolk, VA 23434
(757) 539-3437

Soundings

2509 Walmer Ave.
Norfolk, VA 23513
(757) 857-1212

Appendix G

Sample Fact Sheets



Naval Station Norfolk Installation Restoration Program

COMMUNITY FACT SHEET

March 2003

Introduction

The Department of Defense (DoD) investigates past hazardous and toxic materials storage and disposal activities at military installations under the DoD Installation Restoration Program (IRP). The mission of the program is to identify and clean up contamination resulting from formerly accepted use and disposal practices to protect human health and the environment.

Implementation

Naval Station Norfolk (NSN) in Norfolk, Virginia has been actively studying sites at the complex under the IRP since 1983. Since the implementation of the IRP, 170 sites have been considered under the IRP. Site descriptions and the current status of the twelve active sites (six with remedies, and three sites and three Solid Waste Management Units (SWMUs) under evaluation) are summarized herein.

Site 1 Camp Allen Landfill (CAL)

CAL consists of two distinct areas (Area A, the 45-acre landfill, and Area B, the 2-acre fire disposal area). The Area A landfill operated from the mid-1940s until 1974 and was used to dispose of metal plating and parts cleaning sludge, paint-stripping residue, chlorinated organic solvents, expired chemicals, pesticides, asbestos, incinerator ash, bottom and fly ash from the Base power plant, and miscellaneous debris. Area B was used to dispose of wastes from a 1971 fire at the Camp Allen Salvage Yard (Site 22). Remedial activities at the site include a removal action that was completed at Area B in 1995 to remove the primary source of contamination as well as



the installation of a groundwater extraction and treatment system in both Areas A and B. The groundwater treatment system began operation in 1998 and remains active at this time.

Site 2 Slag Pile

NM Slag Pile is a 1-acre disposal area for slag generated by an aluminum smelting operation during the 1950s and 1960s, which resulted in lead contamination in area soils.



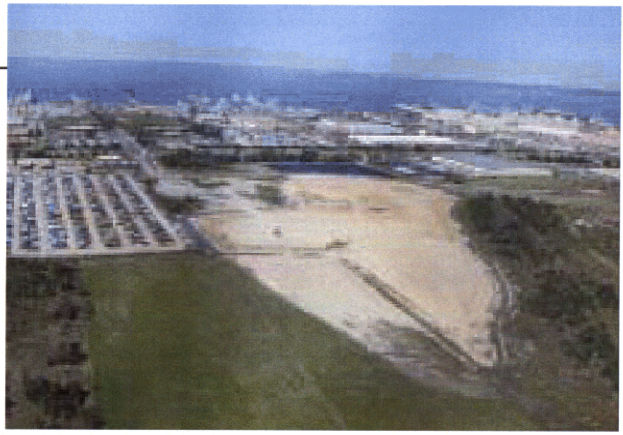
In addition, fly ash and/or bottom ash was also used as fill material to create a level surface to deposit the slag. In 1999, contaminated sediments were removed from the drainage channel adjacent to the site. Additionally in 2000, soil and asphalt covers were placed over the extent of the site.

Site 3 Q Area Drum Storage Yard (QADSY)

QADSY was a 5-acre open earthen yard used from the 1950s to late 1980s to store tens of thousands of drums containing new petroleum products, chlorinated organic solvents, paint thinners, and pesticides. In 1987, approximately 750 cubic yards of oil saturated soil was removed and this area of the site was paved. In addition, two air sparge/soil vapor extraction systems were installed to treat separate source areas and prevent migration of site contaminants into the Elizabeth River. These systems began operation in 1998 and remain active.

**Site 6 CD Landfill**

CD Landfill covers approximately 22 acres and incorporates two separate areas of landfill operation - the eastern section and western section. The eastern section of the landfill operated from 1974 to 1979 and was used for the disposal of demolition debris, inert solid waste, fly ash, and incinerator residue. In 1979 the Naval Station Norfolk received a permit from the Virginia Department of Health (VDH) to use the western portion of the landfill for disposal of demolition debris and other inert wastes. Blasting grit was deposited in the western section of the landfill until 1981 when the grit was tested and found to exceed the toxicity limit for cadmium. Landfilling operations continued in the western portion of the landfill until 1987. A selected amount of contaminated sediments was removed in 1997 and a cap was constructed in 1999. Post closure monitoring started in 2000.

**Site 18 Former NM Waste Storage Area**

The former NM Waste Storage Area consists of an open unpaved yard that was used from 1975 to 1979 to store drums of hazardous waste consisting of waste oil, metal plating solutions and sludges, chlorinated organic acids, and paint stripping solutions. Spillage of waste oil and hazardous wastes occurred during utilization of the site. The nature and extent of contamination at Site 18 is still under evaluation as part of the SI phase of the CERCLA process.

**Site 20 Building LP-20**

Building LP-20 was used for aircraft engine overhaul and maintenance. Previous activities at the building included painting, x-ray facilities, as well as cleaning and blasting. Waste products from these activities were transferred to the industrial wastewater treatment plant via underground piping. In addition, a large fuel storage area, known as the LP Fuel Farm, is also located south of the building. An underground fuel pipeline extends from the Fuel Farm to buildings east of



the site. From the 1940s to 1990s numerous spills or releases of wastewater and petroleum have been documented, with significant releases associated with damage to the underground wastewater lines during construction activities, and leakage of the underground fuel pipeline. An air sparge/soil vapor extraction treatment system was constructed in 1997 and began continuous operation in 1998.

Site 22 Camp Allen Salvage Yard (CASY)

CASY operated from the 1940s to 1995 salvaging and processing scrap materials generated at NSN. Activities at the site included storage and management of waste oils, used



chemicals, and scrap commercial/industrial equipment. Metal smelting, various recycling activities, and miscellaneous burning also occurred at the site. Remedial activities began with a removal action conducted from 1998 to 2001 to remove PCB and metals contaminated soils. In the summer of 2002, a one-foot thick cover was placed over site soil. Additional

remedial action of the sediment in the pond is planned for 2003.

Site 23 Building LP-20 Plating Shop

Building LP-20 Plating Shop and operated from 1956 until 1987 to clean and replate engine parts. The shop consisted of stripping and plating tanks with associated underground piping to convey rinsewaters to the industrial wastewater treatment plant. In 1989, the VDEQ conducted a hazardous waste investigation that identified the shop tanks as a hazardous waste storage facility due to the presence of chemical solutions in the inactive tanks for greater than 90 days period. Subsequent investigations determined that there was some soil contamination due to the previous plating activities. The shop has been partially closed under the Virginia Hazardous Waste Management Regulations (VHWMR) with the removal of the tanks and associated piping. This site was recently included in the IRP and is currently being evaluated.

SWMU 12 - Disposal Area Near NM-37/SWMU 16 - NM-37 Accumulation Area.

SWMUs 12 and 16 are co-located adjacent to Building NM-37 and are being evaluated together under the CERCLA program. SWMU 16 was a Hazardous Waste Accumulation Area located northeast of building NM-37 that consisted of a metal container used to store fuel for mowers, oils, and hydraulic fluids. There is no history of releases associated with SWMU 16, however, areas of stressed vegetation were observed during previous site visits. Since initiation of the investigation, SWMU 16 has been demolished and replaced by a newer structure. SWMU 12 was initially identified from a 1958 aerial photograph as a possible disposal area (as indicated by ground surface scarring) surrounding building NM-37. These sites are currently being evaluated in the RI phase of the CERCLA process.



SWMU 14 - Q-50 Satellite Accumulation Area/Site 9 - Q Area Landfill.

SWMU 14 and Site 9 are co-located and are therefore evaluated together under the CERCLA program. The Site 9 landfill operated from 1974 to 1978 and was used to dispose of construction debris. These filling activities formed much of the Sewell's Point



peninsula. SWMU 14 consisted of a concrete storage pad that was constructed on top of the Site 9 landfill. The pad served as a 90-day hazardous waste accumulation area where wastes were processed (sampled, identified, labeled, and packaged) before shipping to eventual disposal. The original concrete pad for the accumulation area has since been removed. These sites are currently being evaluated in the RI phase of the CERCLA process.

Restoration Advisory Board

NSN established a Restoration Advisory Board (RAB) to advise the support the NSN IR Program. NSN's RAB is comprised of Navy personnel, local, state, and federal officials, and community members. The RAB meets at semi-annually to review IR Program status and receive public comment.

Community Relations

The Navy is in the process of updating their Community Relations Plan for NSN. As part of this update, the Navy interviewed community members, local officials, and the media. The CRP and other IR Program documents are available for review at the library listed below.

Information Repositories and Administrative Record

NSN has established an information repository so that the Base and the community have access to the IR Program documents. The information repository, listed below, typically contains study reports, fact sheets, brochures, letters, and other items of interest.

The information repository is different from the Administrative Record. The Administrative Record is the legal record of all the information reviewed and considered in order to propose site cleanup actions. The Administrative Record is available at the same location as the information repository.

Kirn Memorial Branch
Norfolk Public Library
301 East City Hall Avenue
Norfolk, Virginia 23510
(757) 441-2173

Point of Contact

John Ballinger
Outreach Coordinator
Regional Environmental Group
Oceana
1003 D Avenue
Virginia Beach, Virginia 23460-2797

Appendix H
Elected/Appointed Officials

Elected/Appointed Officials

National Legislators

The Honorable George Allen
Member, United States Senate
111 East Main Street
Richmond, VA 23218
(804) 771-2221

The Honorable John Warner
Member, United States Senate
4900 World Trade Center
Norfolk, VA 23510
(757) 441-3079

The Honorable Edward L. Schrock
*Member, United States House
of Representatives*
128 Cannon H.O.B.
Washington, DC 20515

The Honorable Robert (Bobby) Scott
*Member, United States House
of Representatives*
2430 Rayburn H.O.B.
Washington, D.C.
(202) 225-8351

State Officials

Mark R. Warner
Governor
State Capital Building
Richmond, VA 23219
(804) 786-2211

Timothy M. Kaine
Lieutenant Governor
Virginia Supreme Court Building
101 North Eighth Street
Richmond, VA 23219
(804) 786-2071

Jerry W. Kilgore
Attorney General
Virginia Supreme Court Building
101 North Eighth Street
Richmond, VA
(804) 786-2078

City Officials

Paul D. Fraim
Mayor Ward 2
1109 City Hall Building
Norfolk, VA 23510
(757) 664-4679

Daun Sessoms Hester
Vice-Mayor Super Ward 7
3728 Wedgefield Avenue
Norfolk, VA 23502
(757) 466-7882

Donald L. "Don" Williams
Member, Ward 1
809 W. Ocean View Avenue
Norfolk, VA 23503
(757) 587-5305

Anthony L. Burfoot
Member, Ward 3
4823 Winthrop Street
Norfolk, VA 23513
(757) 725-1053

Paul R. Riddick
Member, Ward 4
1225 Norview Avenue
Norfolk, VA 23513
(757) 855-9010

W. Randy Wright
Member, Ward 5
410 Briar Hill Road
Suite 102
Norfolk, VA 23502
(757) 466-1476

Barclay C. Winn
Member, Ward 6
1201 Liberty Street
Norfolk, VA 23523
(757) 494-1400
(757) 494-1217

Appendix I
Boards and Commissions/Civic Clubs—
City of Norfolk

APPENDIX I

Boards and Commissions/Civic Clubs— City of Norfolk

Algonquin Park/North Shore Point
Civic League
John Holland, M.D.
1094 Algonquin Rd. Norfolk VA 23505

American Association of Retired
Persons Chapter 1757
Louise Cooke
214 Farrell St. Norfolk VA 23503

Azalea Acres/Azalea Acres
Larry Amanatides
5812 Andrea Drive Norfolk VA 23518

Ballentine Place Civic League
Valerie Crowell
2920 Tait Terrace Norfolk VA 23509

Barberton Civic League
V. Andre Fenwick
1225 Wide Street Norfolk VA 23504

Bayview Civic League
Linda Lundquist
9529 Chesapeake Street Norfolk VA
23503

Beacon Light/Berkley Civic League, Inc.
Kenneth Alexander
122 E. Berkley Avenue Norfolk VA
23523

Bel-Aire/South Bay View/Forrest Park
Civic League
Leroy Walton
1662 Sheppard Avenue Norfolk VA
23518

Berkley Community Civic League
Fred Roundtree
P. O. Box 4600 Norfolk VA 23523

Bollingbrook Civic League
Ada Blair
119 Filbert Street Norfolk VA 23505

Bowling Green Civic League
Valerie Clark
1328 Godfrey Avenue Norfolk VA 23504

Brambleton Civic League
Kendrick Thompson
824 Marshall Avenue Norfolk VA 23504

Broad Creek Civic League, Inc.
Mamie Johnson
2605 Mapleton Ave. Norfolk VA 23504

Broad Creek Shores Civic League Delores S.
Mercer
938 Anna Street Norfolk VA 23502

Bromley Civic League
Jim Knight
1714 N. Lakeland Drive Norfolk VA 23518

Bruce's Park Civic League
Eleanor King Clark
1364 Hanson Avenue Norfolk VA 23504

Camellia Shores Civic League
Richard W. Schult
2959 Murray Ave. Norfolk
VA 23518

Campostella Civic League
Willie Ponds
1219 Pike St. Norfolk VA 23523

Campostella Heights Civic League
Keela Boose-Jackson
1936 Springfield Norfolk VA 23503

Chesapeake Bay Art Association
Paula Whalen
219 West Ocean View Avenue Apt. #5
Norfolk VA 23503

Chesapeake Gardens/Mamie Homes
Civic League, Inc.
Melvin Noel, Sr.
845 Tifton Street Norfolk VA 23513

Chesterfield Heights Civic League
Catherine Whitaker
2728 Westminster Avenue Norfolk VA
23504

Cogic Highrise Apartment Civic League
Helen Woodley
2412 E. Virginia Beach Blvd. Apt. 1-A
Norfolk VA 23504

Coleman Place Civic League
Fred Gallup
2432 Wyoming Ave. Norfolk VA 23513

College Neighborhood Civic League
Barbara Bell
927 Kenton Avenue Norfolk VA 23504

Colonial Place/Riverview Civic League
Craig Reilly
721 Mayflower Road Norfolk VA 23508

Community Partnership of Concerned
Citizens of Ingleside
Ken Grow
3741 Ingle Circle Norfolk VA 23502

Concerned Citizens of Titustown, The
Nathaniel Riggins
1106 Matthew Henson Street Norfolk VA
23505

Coronado/Inglenook Civic League Garnzie
West
928 Widgeon Road Norfolk VA 23513

Cottage Line Civic League
Vic Yurkovic
1816 East Ocean View Ave. Norfolk VA
23503

Cromwell Farms Civic League
Lori Robinson
239 South Blake Road Norfolk VA 23505

Cruser Place Civic League
Nicholas R. Foster
216 Maryland Avenue Norfolk VA 23504

Diggs Town Tenant Management
Corporation
Hattie Anderson
1619 Green Leaf Drive Norfolk VA 23523

Downtown Norfolk Council
Cathy Coleman
201 Granby St. Suite 101 Norfolk VA 23510

East Belvedere Block Security
Suzanne Artman
7500 Hampton Blvd., #C4 Norfolk VA
23505

East Fairmount Civic League
Jim Fisher
3307 Montana Avenue Norfolk VA 23513

East Lynne/Saratoga Civic League Peggy
Hagel
2413 Heutte Dr. Norfolk VA 23518

East Ocean View/Little Creek
Improvement Association
Aaron Marshall
3132 E. Ocean View Avenue Norfolk VA
23518

Easton Forest Civic League
Denise Matchen
6051 Foresttown Drive Norfolk VA
23502

Elizabeth Park Civic League
Neal Windley
238 Lucian Court Norfolk VA 23502

Estabrook Civic League
Eloise LaBeau
3501 Orange Street Norfolk VA 23513

Fairmount Park Civic League
Barbara Boland
2707 Somme Avenue Norfolk VA 23509

First Oakmont/North Rosemont Civic
League
Charles Hasberry
1294 Rosemont Court Norfolk VA 23513

Five Points Partnership
Bev Sell
3610 Henrico Street Norfolk VA 23513

Fox Hall Civic League
Cheri Taylor
4913 Cape Henry Ave. Norfolk VA
23513

Fox Hall Civic League
Tom Leisher-Newsletter Editor
4912 Cape Henry Ave. Norfolk VA
23513

Freemason Street Area Association
Madeline Sly
215 Brooke Avenue #1002 Norfolk VA
23510

Ghent Neighborhood League
Murray Bishop
729 Baldwin Ave. Norfolk VA 23517

Ghent Square Homeowners Association
Stephanie Calliott
852 Mowbray Arch Norfolk VA 23507

Glengariff Civic League
John Pasanen
6466 Powder Horn Drive Norfolk VA 23518

Glenrock Civic League
Mary Pulley
409 Lucas Ave. Norfolk VA 23502

Glenwood Park Civic Club, Inc. MaryAnn
Miller
330 Beechwood Avenue Norfolk VA 23505

Grandy Village Advisory Council Shirley
Martin
705 Kimball Court Norfolk VA 23504

Greater Pinewell Civic League
Jeff Miskell
9551 Sherwood Place Norfolk VA 23503

Greater Pinewell Civic League
Dianne Steele, VP
419 Bay Dunes Drive Norfolk VA 23503

Greenhill Farms Civic League
James Wright
6367 Glenoak Drive Norfolk VA 23513

Hardy Field Civic League
Therman Ames
310 Hardy Avenue Norfolk VA 23523

Highland Park Civic League
Fran Peterson
P.O. Box 6163 Norfolk VA 23508
Hollywood Homes/Maple Hall Civic
League Rusty Bishop

6265 Wailes Avenue Norfolk VA 23502
Homeowners Outreach League of
Lamberts Point
Dicie Harris
2714 Bowdens Ferry Rd Norfolk VA
23508

Huntersquare Advisory Council
Betty Cuffee
825 Goff Street #131 Norfolk VA 23504

Idlewood/Sandy Heights Civic League
Alfred G. Hyman
3357 Loam Street Norfolk VA 23518

Ingleside Civic League
Algie Howell
859 Benwood Road Norfolk VA 23502

Inner City Federation of Civic Leagues
Joshua Paige
5524 Barberry Drive Norfolk VA 23502

Kensington/Old Dominion Civic
League
Ernest Hill
815 W. 36th St. Norfolk VA 23508

Lafayette/Winona Civic League
Karen Newbern
P.O. Box 7681 Norfolk VA 23509

Lake Taylor Civic League
Steven A. Mirman
PO Box 12753 Norfolk VA 23541

Lakewood/Willowwood Civic League
Robert McFarland 1435 Hadlock
Avenue Norfolk VA 23509

Lamberts Point Civic League
Ellen Harvey
1265 West 37th St. Norfolk VA 23508
Larchmont/Edgewater Civic League
David O'Dell
1143 Lexan Avenue Norfolk VA 23508

Larrymore Lawns Community
Tisha Jordan
7416 Gardner Drive Norfolk VA 23518

Larrymore Lawns Neighborhood Watch
Victoria Long
6904 Doummar Drive Norfolk VA 23518

Lindenwood/Cottage Heights/Barraud
Park Civic League
Keith P. McEachin
900 Lamont Street Norfolk VA 23504

Lindenwood/Cottage Heights/Barraud
Park Civic League
Thelma W. Jones, Secretary
881 Rugby Street Norfolk VA 23504

Lochhaven Civic League
Kathy Heaton
431 Muirfield Road Norfolk VA 23505

Meadowbrook Forest/Hunt Club
Point/Meadowbrook Terrace C.L.
Syble Stone
6846 Fordwick Drive Norfolk VA 23518

Middle Towne Arch Civic League Harold
Perkins
P.O. Box 1742 Norfolk VA 23501

Monticello Village Civic League
Nancy Gray
8016 Keene Road Norfolk VA 23505

Nansemond-on-the-Bay Condominium
Association
Suzy Allen
100 E Ocean View Avenue Unit 909 Norfolk
VA 23503

Newtowne Civic League, Norfolk VA
Norfolk Federation of Civic Leagues Marie
Arnt
2133 Tarrallton Drive Norfolk VA 23518

Norfolk Historical Society
James K. Sands
PO Box 6367 Norfolk VA 23508

Norfolk Industrial Park Association
Fred Amos
4500 Patent Road Norfolk VA 23502

Norfolk Neighborhood Crime
Prevention Coalition
Butch Elliott
8530 Tidewater Drive #116 Norfolk VA
23503

North Camellia Acres Civic League
Clifton Hicks
8133 Walters Drive Norfolk VA 23518

North Camellia Acres Civic League
Bernard Liedl, Secretary
8037 Jerry Lee Court Norfolk VA 23518

North Meadowbrook Civic League
Melda Stallings
7709 N. Shirland Avenue Norfolk VA
23505

Northside Civic League
Edith Warring
300 Twilley St. Norfolk VA 23503
Norvella Heights Civic League Norfolk
VA 23513

Norview Civic League
Bobby Hughes
1056 Norview Avenue Norfolk VA
23513

Oakdale Farms/Denby Park Civic
League Donald Robertson
514 Draper Street Norfolk VA 23505

Oakleaf Forrest Advisory Council
Carolyn Morris
1959 Greenleaf Drive Norfolk VA 23523

Oakmont North Homeowners Civic League

J. C. Burton
443 Oakmont Dr. Norfolk VA 23513

Oakwood Civic League
Richard K. Parker
956 Avenue H Norfolk VA 23513

Ocean View Civic League
Z. Vance Mitchell, Jr.
250 West Ocean View Avenue Norfolk VA
23503

Ocean View Coordinating Committee Earl
Bowden
582 West Ocean View Avenue Norfolk VA
23503

Old Huntersville Civic League
Bea Garvin
830 Goff Street Norfolk VA 23504

Olde Huntersville Development
Corporation
Bea Jennings
1499 Tidewater Drive Norfolk VA 23504

Park Place Civic League
Reginald Church
514 W. 28th Street Norfolk VA 23508

Park Terrace Advisory Council-Norfolk
Tenant Organization
1120 Park Avenue Norfolk VA 23504

Pleasant Point Civic League
Becky Cleveland
430 Peace Haven Drive Norfolk VA 23502

Poplar Hall Civic League
James Hester
P.O. Box 41315 Norfolk VA 23541

Poplar Hall Civic League
Marvin Rawls

701 Briar Hill Road Norfolk VA 23502
River Forrest/Wayside Manor/Easton
Place Civic
Lindell Davidson
205 W. McGinnis Circle Norfolk VA
23502

River Oaks Civic League William J.
Laux, Jr. 1329 River Oaks Drive Norfolk
VA 23502
Riverfront Civic League
Dorma Hedrick
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Riverpoint Civic League
Judd Knecht
6049 Newport Avenue Norfolk VA
23505

Roberts Village Resident Council
Shirley Freeman
2901 Liberia Drive Norfolk VA 23504

Roland Park Civic League
Sally Leshner
6437 Tappahannock Drive Norfolk VA
23509

Roosevelt Area Civic League
Bill Harbert
2336 Wharton Ave. Norfolk VA 23518

Roosevelt Area Civic League
Joseph Query
1310 E. Little Creek Road Norfolk VA
23518

Sewells Garden Civic League
James R. Wilson
6413 Clare Road Norfolk VA 23513

Shady Woods Civic League
Norfolk VA 23513

Sherwood Forest Civic League
Daniel E. Montague
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Spartan Village Civic League
Dennis C. Brickhouse Sr.
1680 Madison Ave. Norfolk VA 23504

Spartan Village Civic League
Dorothy Autury
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St. Andrew's Place Civic League
Mia Holmes
1421 E. Tanners Creek Drive Norfolk VA
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St. Andrew's Place Homes Association
Norfolk VA 23513
Suburban Acres Civic League
Pearl Windle
7070 Suburban Arch Norfolk VA 23505
Sumler Terrace Residence Office
1052 Liberty Street Norfolk VA 23523

Talbot Park Civic League
Keith Torian
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The Gardens Civic League
Marlies Landry
7525 Daisy Court Norfolk VA 23518

Tidewater Gardens Tenant Management
Corporation
Ursula Banks
1016 Mariner Street Norfolk VA 23504

Tipperton Place Civic League
Paul Bohn
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Villa Heights Civic League
Sandra Williams
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Ward 5 Partnership
Jim Janata
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23518

Wards Corner Civic League
James English
408 Burleigh Avenue Norfolk VA 23505

Wards Corner Partnership
Louis Eisenberg
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Waverly on Broad Creek Civic League
Elwood Williams
554 Stuart Circle Norfolk VA 23502

Waverly on Broad Creek Civic League
Gwendolyn Hawkins
581 Stuart Circle Norfolk VA 23502

Wellington Oaks Civic League
Noah Bethea
1228 Curie Court Norfolk VA 23513

West Ghent Civic League
James Farrell
PO Box 11526 Norfolk VA 23517

West Ocean View Conservation
Committee
Robert P. Bayliss
148 Dupree Avenue Norfolk VA 23503

Willoughby Civic League
Jim Prudner
1226 W Ocean View Ave #G Norfolk
VA 23503

Woodbine Civic League Flora
Sue Burns
5504 Levine Court Norfolk VA 23502

Young Terrace Tenant Management
Rabina Sharpe
823 Smith Street Norfolk VA 23510

Animal Welfare Board of Review
Melvin High
Chief of Police
(757) 664-3277

Botanical Garden Society Board of Trustees
DONALD R. BUMA
Executive Director, Norfolk Botanical
Garden Society
(757) 441-5830 Ext. 21

Board of Building Code Appeals
Vernell Woods
Deputy Code Official, Building
Construction Services/ Administration
(757) 664-6587

City Planning Commission
(757) 664-4752

Community Services Board
George Pratt, Ph.D.
Executive Director, NCSB
(757) 441-5300

Criminal Justice Board
Christine Cowan
Coordinator of LOTS
(757) 441-1413

Employees' Retirement System Board of
Trustees
Theodore O. Wilder
Secretary
(757) 664-4738

Norfolk Environmental Commission
James English, Chairman
3500 Granby Street
Norfolk, VA 23504
(757) 441-1347

Norfolk Public Library Board
Sally Reed
Library Director
(757) 664-7328

Police-Fire Trial Board
Hal Juren
Chief Deputy City Attorney
(757) 664-4529

Public Vehicle Driver Appeals Board
Wayne N. Trout
Real Estate Assessor, City of Norfolk
(757) 664-4732

School Board
Dr. John O. Simpson
Superintendent of Schools
(757) 441-2107

Towing Advisory Board
Shelton Darden
Assistant Chief of Police, Norfolk Police
Department
(757) 664-3284

Youth Service Citizens Board
Linda Kitt
Department of Human Services
(757) 664-6115

Source: City of Norfolk Webpage, 12/18/02.

Appendix J

Glossary

GLOSSARY

Administrative Record – A file that is maintained, and contains all information used, by the lead agency to make its decision on the selection of a response action under CERCLA. This file is to be available for public review and a copy established at or near the site, usually at one of the Information Repositories. A duplicate file is held in a central location, such as a Regional Office or State.

Cleanup – Actions taken to deal with a release or threatened release of hazardous substances that could affect public health or the environment. The term is often used broadly to describe various response actions or phases of remedial responses, such as the remedial investigation/feasibility study (RI/FS).

Comment Period – A time period for the public to review and comment on various documents and EPA actions. For example, a comment period is provided when EPA proposes to add sites to the National Priorities List. A minimum 30-day comment period is held to allow community members to review and comment on a draft RI/FS and proposed plan; it must be extended an additional 30 days upon timely request. A comment period is required to amend the ROD. Similarly, a 30-day comment period is provided when EPA proposes to delete a site from the NPL.

Community Relations – EPA's program to inform and involve the public in the Superfund process and respond to community concerns.

Community Relations Plan (CRP) – Formal plan for EPA community relations activities at a Superfund site. The CRP is designed to ensure citizen opportunities for public involvement at the site, determine activities that will provide for such involvement, and allow citizens the opportunity to learn more about the site.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – A Federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act. The Acts created a special tax that goes into a Trust Fund, commonly known as Superfund, to investigate and clean up abandoned or uncontrolled hazardous waste sites. Under the program, EPA can either:

- Pay for site cleanup when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work, or
- Take legal action to force parties responsible for site contamination to clean up the site or pay back the Federal government for the cost of the cleanup.

Ground Water – Water found beneath the earth's surface that fills pores between materials such as sand, soil, or gravel. In aquifers, ground water occurs in sufficient quantities that it can be used for drinking water, irrigation, and other purposes.

Hazard Ranking System (HRS) – A scoring system used to evaluate potential relative risks to public health and the environment from releases or threatened releases of hazardous

substances. EPA and states use the HRS to calculate a site through air, surface water, or ground water. This score is the primary factor used to decide if a hazardous waste site should be placed on the National Priorities List.

Hazardous Substance – Any material that poses a threat to public health and/or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive. **Hydrology** – The science dealing with the properties, movement, and effects of water found on the earth's surface, in the soil and rocks below and in the atmosphere.

Information Repository – A file containing current information, technical reports, reference documents, and TAG application information on a Superfund site. The information repository is usually located in a public building that is convenient for local residents, such as a public school, city hall or library.

Leachate – A contaminated liquid resulting when water percolates, or trickles, through waste materials and collects components of those wastes. Leaching may occur at landfills and may result in hazardous substances entering soil, surface water, or ground water.

Monitoring Wells – Special wells drilled at specific locations on or off a hazardous waste site where ground water can be sampled at selected depths and studied to determine the direction of ground water flow and the types and amounts of contaminants present.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP) – The Federal regulation that guides the Superfund program. The NCP was revised in February, 1990.

National Priorities List (NPL) – EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response using money from the Trust Fund. The list is based, primarily, on the score a site receives on the Hazard Ranking System. EPA is required to update the NPL at least once a year.

Preliminary Assessment – The process of collecting and reviewing available information about a known or suspected hazardous waste site or release. EPA or states use this information to determine if the site requires further study. If further study is needed, a site inspection is undertaken.

Proposed Plan – A public participation requirement of CERCLA in which EPA summarizes for the public the preferred clean up strategy, rationale for the preference, alternatives presented in the detailed analysis of the RI/FS, and any proposed waivers to clean up standards. The proposed plan may be prepared as a fact sheet or a separate document. In either case, it must actively solicit public review and comment on all alternatives under consideration.

Record of Decision (ROD) – A public document that explains which clean up alternative will be used at National Priorities List sites. The record of decision is based on information and technical analysis generated during the RI/FS and consideration of public comments and community concerns.

Remedial Action (RA) – The actual construction or implementation phase that follows the remedial design of the selected clean up alternative at a site on the National Priorities List.

Remedial Design (RD) – An engineering phase that follows the record of decision when technical drawings and specifications are developed for subsequent remedial action at a site on the National Priorities List.

Remedial Investigation/Feasibility Study (RI/FS) – Investigate and analytical studies usually performed at the same time in an interactive, iterative process, and together referred to as the “RI/FS.” An RI/FS is intended to:

- Gather the data necessary to determine the type and extent of contamination at a Superfund site
- Establish criteria for cleaning up the site
- Identify and screen clean-up alternatives for remedial action
- Analyze in detail the technology and costs of the alternatives

Remedial Project Manager (RPM) – The EPA, State, or Navy representative responsible for overseeing remedial response activities.

Remedial Response – A long-term action that stops or substantially reduces a release or threatened release of hazardous substances that is serious but does not pose an immediate threat to public health and/or the environment.

Removal Action – An immediate action taken over the short-term to address a release or threatened release of hazardous substances.

Resource Conservation and Recovery Act (RCRA) – A Federal law that established a regulatory system to track hazardous substances from their generation to disposal. The law requires safe and secure procedures to be used in treating, transporting, storing, and disposing of hazardous substances. RCRA is designed to prevent the creation of new, uncontrolled hazardous waste sites.

Response Action – A CERCLA-authorized action at a Superfund site involving either a short-term removal action or a long-term response action that may include, but is not limited to, the following activities:

- Removing hazardous materials from a site to an EPA-approved, licensed hazardous waste facility for treatment, containment, or destruction
- Containing the waste safely on-site to eliminate further problems
- Destroying or treating the waste on-site using incineration or other technologies, and
- Identifying and removing the source of groundwater contamination and halting further movement of the containments.

Responsiveness Summary – A summary of oral and written public comments received by EPA during a comment period on key EPA documents, and EPA’s responses to those comments. The responsiveness summary is a key part of the ROD, highlighting community concerns for EPA decision-makers.

Selected Alternative – The clean-up alternative selected for a site on the National Priorities List based on technical feasibility, permanence, reliability, and cost. The selected alternative does not require EPA to choose the least expensive alternative. It requires that if there are several clean-up alternatives available that deal effectively with the problems at a site, EPA must choose the remedy on the basis of permanence, reliability, and cost.

Site Inspection (SI) – A technical phase that follows a preliminary assessment designed to collect more extensive information on a hazardous waste site. The information is used to score the site using the Hazard Ranking System to determine whether response action is needed.

Superfund – The common name used for the Comprehensive Environmental Response, Compensation Liability Act (CERCLA); also referred to as the Trust Fund.

Superfund Amendments and Reauthorization Act (SARA) – Modifications to CERCLA enacted on October 17, 1986.

Surface Water – Bodies of water that are above ground, such as rivers, lakes, and streams.

Technical Assistance Grant (TAG) Program – A grant program that provides funds for qualified citizens' groups to hire independent technical advisors to help them understand and comment on technical decisions relating to Superfund clean-up actions.

Trust Fund – A Fund set up under the Comprehensive Environmental Response, Compensation, and Liability Act to help pay for cleanup of hazardous waste sites and to take legal action to force those responsible for the sites to clean them up.

Source: EPA Community Relations in Superfund: A Handbook, Appendix E, Superfund Glossary and Acronyms, pages E-1 through E-6. Prepared by the U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC. EPA/540/R-92/009. January 1992.